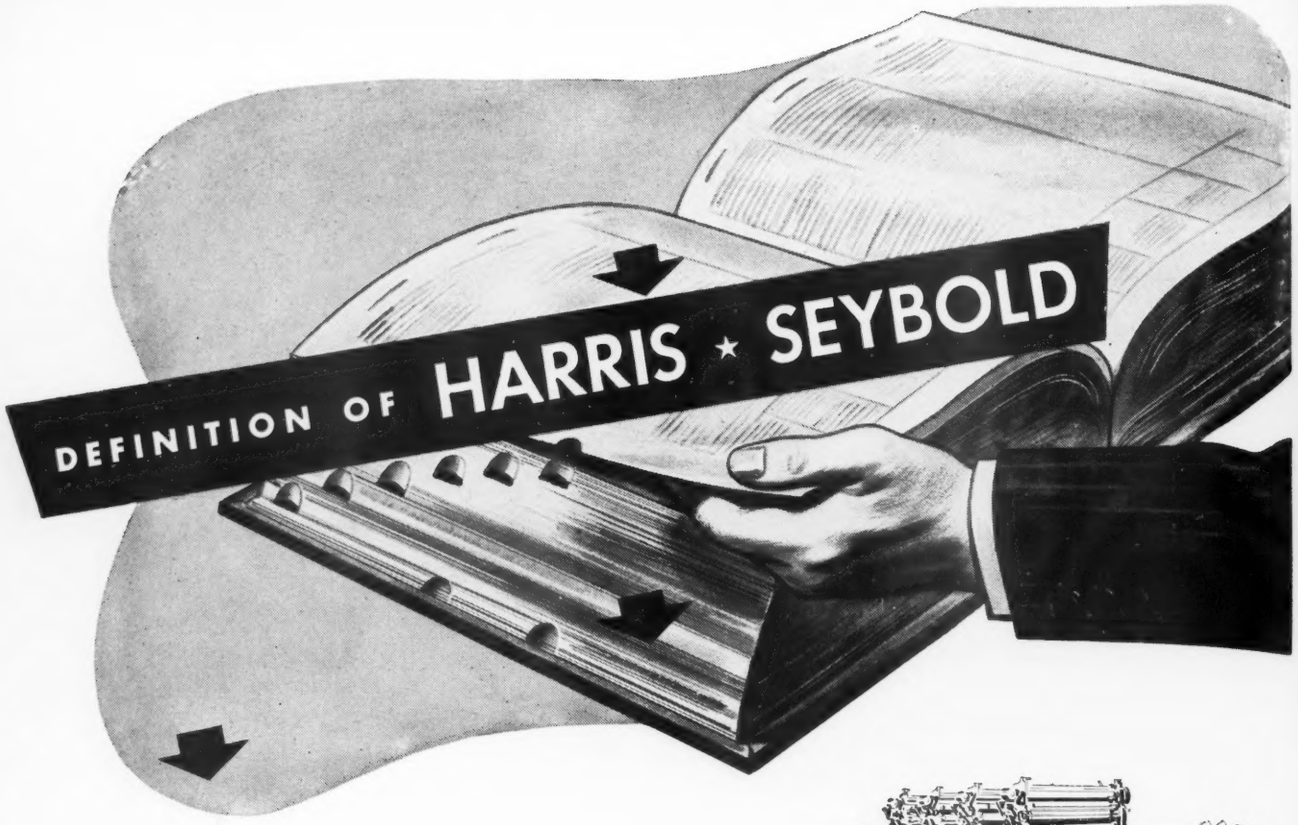
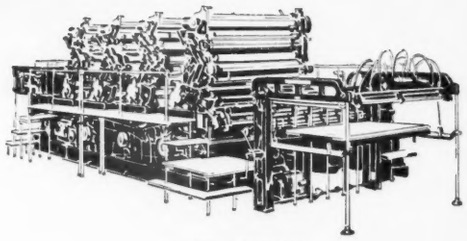
# PRINTING EQUIPMENT




Harris-Seybold (Hâr-ĭs Sī′-bōld )n. [Cleveland, Harris; Dayton, Seybold]. Abbreviated form of the corporate name, Harris-Seybold-Potter Company, manufacturer of printing presses for fifty years, offset, typographic and gravure; power paper cutters and trimmers for sixty years. The company also manufactures paper, metal and wood stitching machines, and multiple spindle paper drills. Its lithographic offset presses range from one-color 17 x 22″ to four-color 50 x 69″.

Harris-Seybold now has fourteen authorized factory service offices throughout the United States and Canada, manned by factory-trained personnel. A complete stock of replacement parts is maintained at New York, Chicago, Atlanta and Toronto, as well as at the factories. Harris-Seybold-Potter Company, General Sales Offices, Cleveland 5, Ohio.



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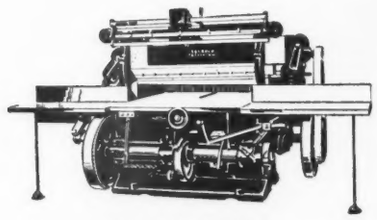
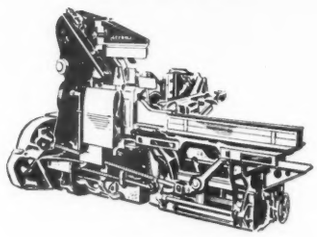


SEYBOLD CUTTERS



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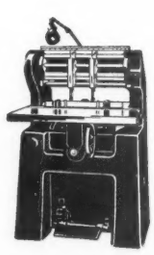
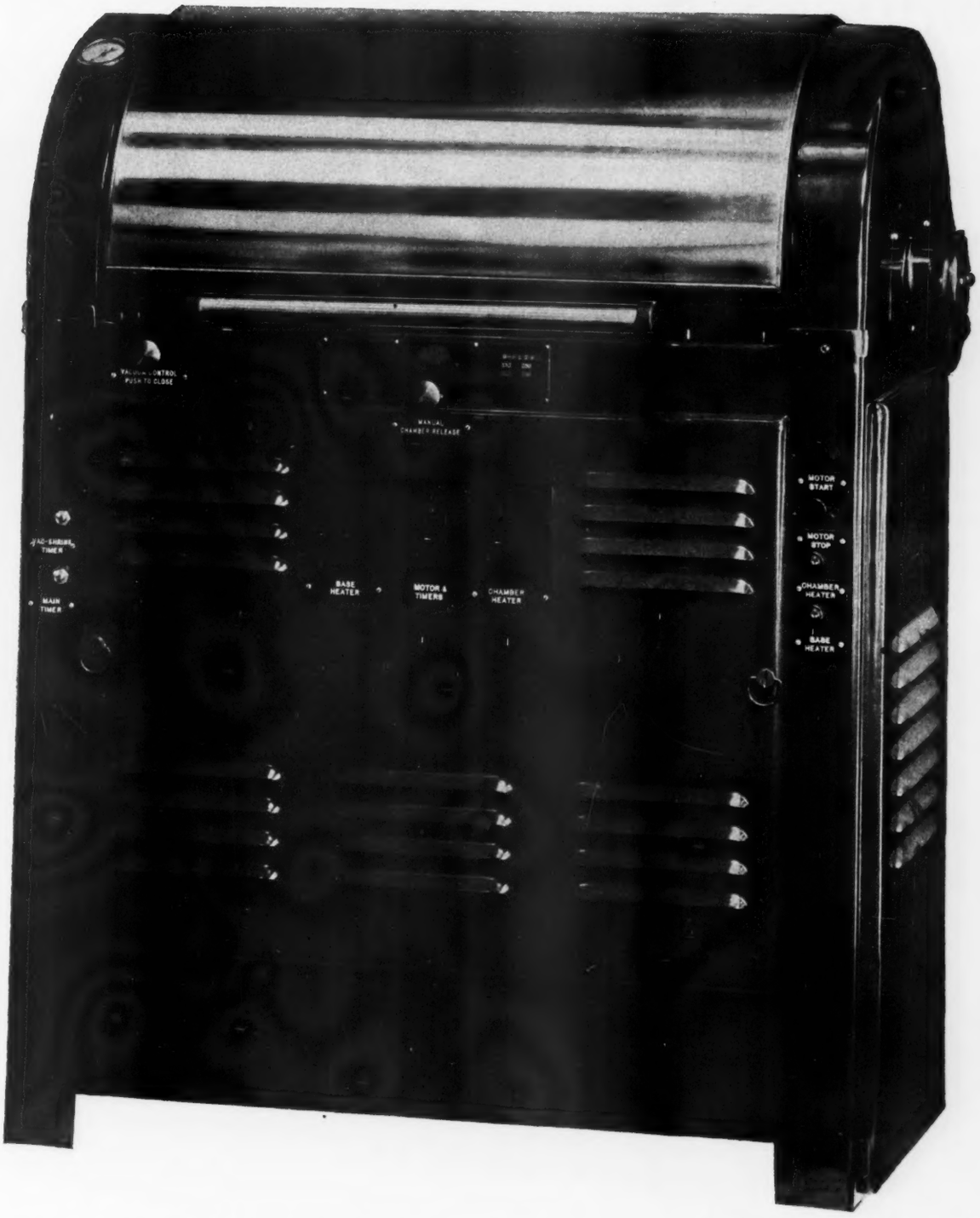


# HARRIS ★ SEYBOLD

HARRIS PRESSES...SEYBOLD CUTTERS...RELATED MACHINES, EQUIPMENT AND SUPPLIES

## *A STEREOTYPER'S EYE-VIEW OF THE NEW STA-HI MASTER FORMER*




"Man and boy, I've seldom seen a finer looking piece of machinery!" . . . That's what every stereotyper says when he gets a new Sta-Hi Master Former, "plugs it in" almost as simply as an electric toaster, and puts it to work . . . And he soon finds out that behind the slick, smooth, easily operated exterior of the machine there's a whale of a lot of precision-engineered performance that means Better Mats, Better Plates, Better Printing . . . At Sta-Hi, improvement is a constant process . . . Machines now in production are bound to be better than those delivered before the war . . . The Master Formers now being manufactured boast a world of improvements and refinements . . . These include new switches and operating mechanisms for the electronic timers; new type air filters with instantly changeable fibreglass filters; vacuum gauge mounted in the base heater frame for better observation; new type vacuum pump and improved coupling connection; better heater construction, assuring even heat distribution; easily removable panels giving quick access to working parts; a simplified wiring system and many more! . . . But all these add up to just one thing—doing a better job for newspapers and the men who man the machines that make better newspapers . . .

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. . . and heavy halftones with ease is a matter of regular performance on the ATF Kelly. Perfect coverage of the form with well-worked-up ink is provided by the Kelly pyramid system of ink distribution . . . plus automatic double-rolling for forms that need it. Impressional strength *beyond* any requirement gives the heaviest forms rigid support for a strong even impression at high speeds. All ATF Kellys are built to meet top demands of the commercial printer economically, too.

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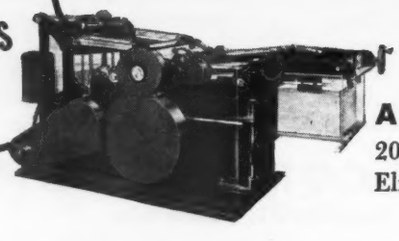

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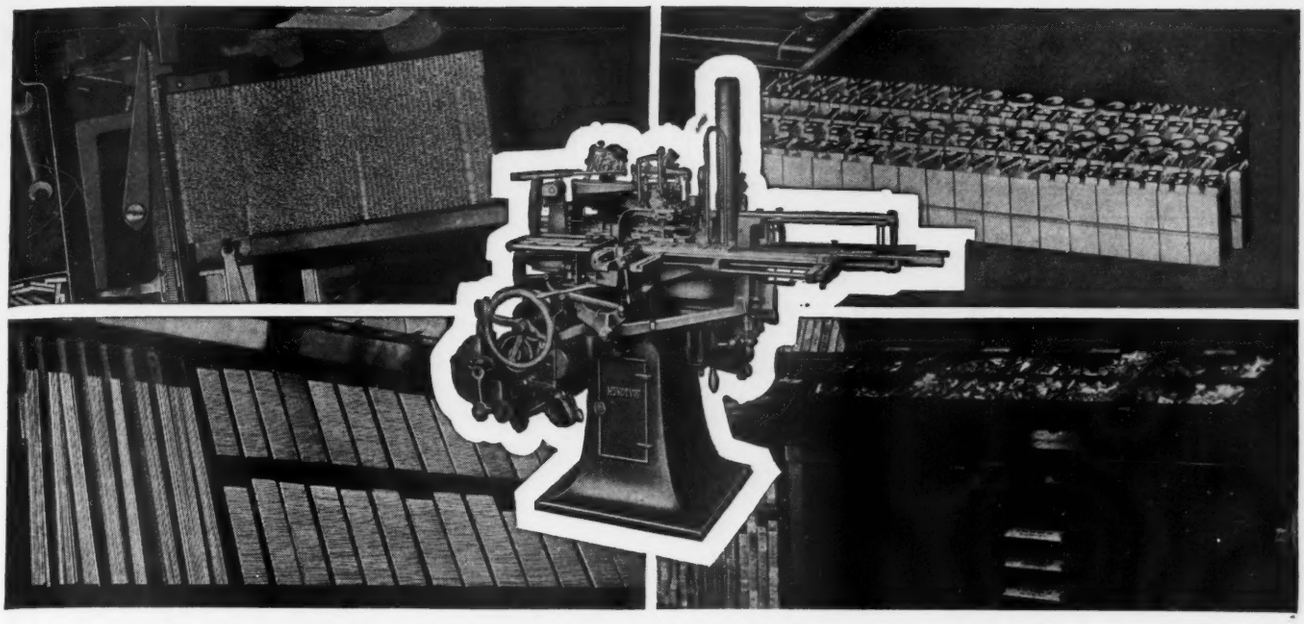

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# PRINTING EQUIPMENT *Engineer*

**Volume 71** **Number 2**

*A technical publication for the mechanical executive responsible for printing production, equipment and supplies in the commercial, magazine, private plant and daily newspaper field.*

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# Bring in the New...

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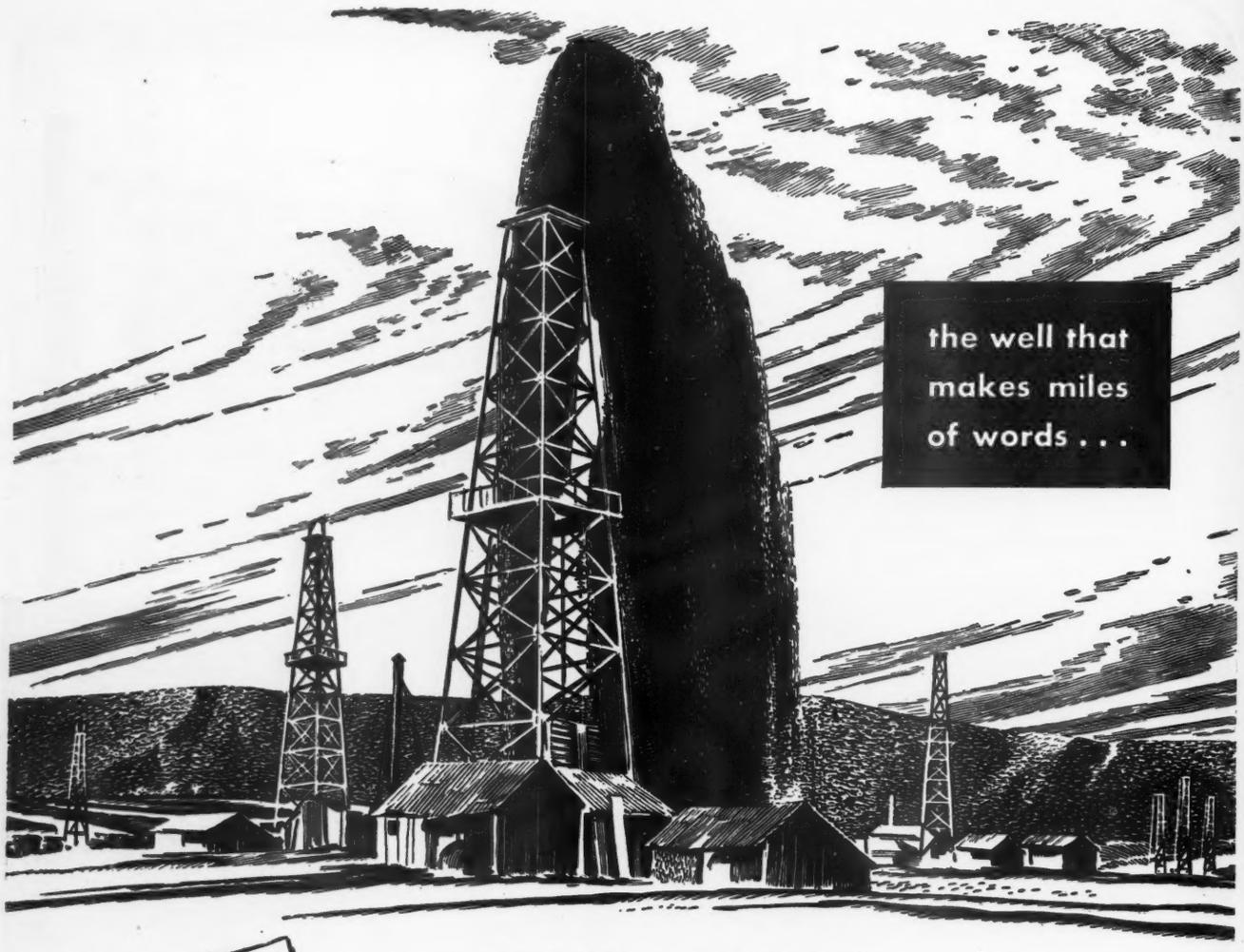

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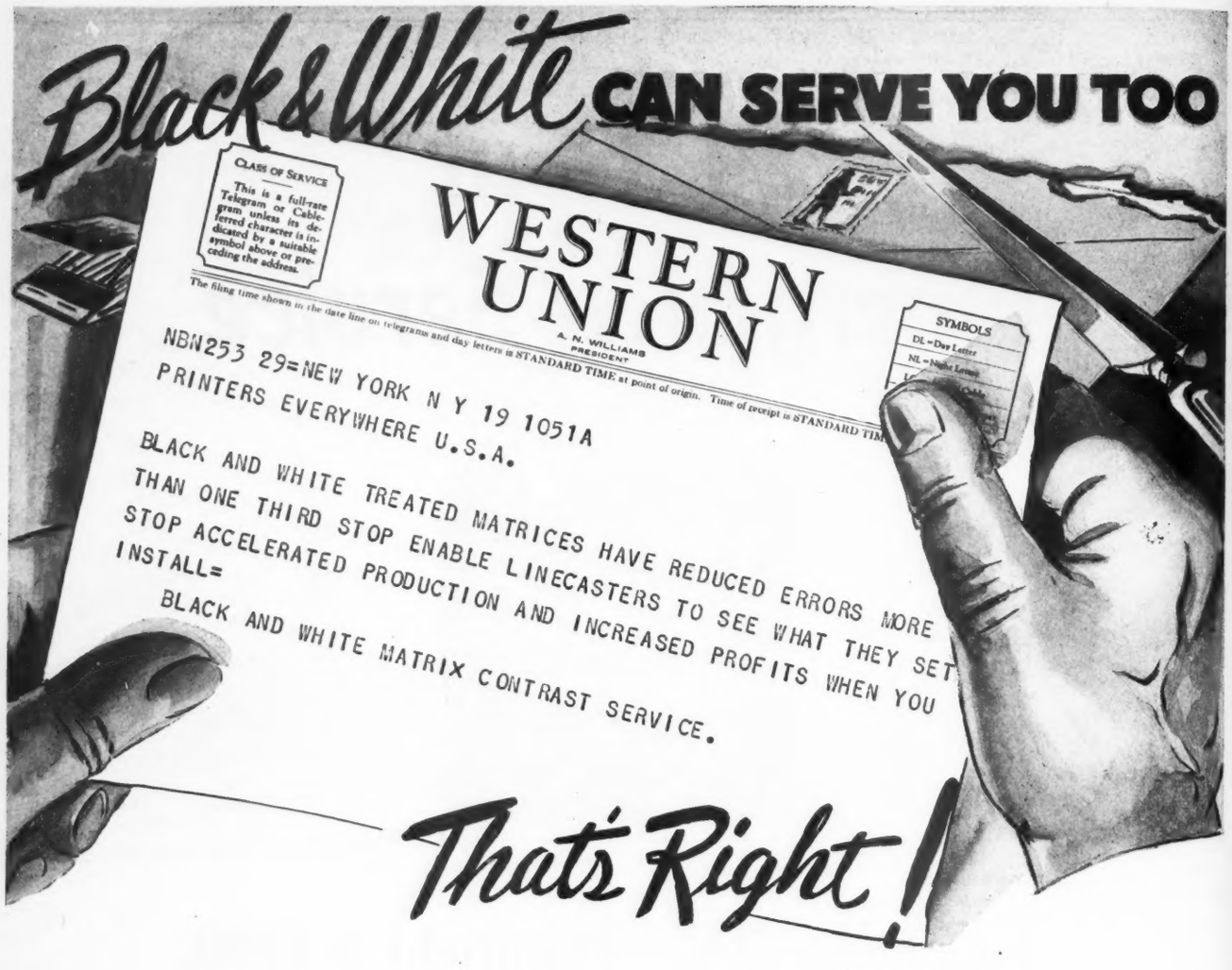
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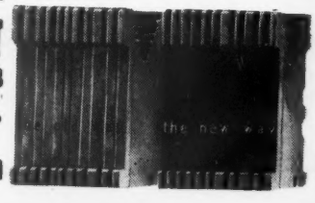

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# Great Lakes Conference

***constructive in every respect — better photo-engraving equipment, wire photo pictures, local photos, increased composing room costs, neglect of mail rooms by management and poor national advertising plates discussed***

**By STAFF WRITER**

THE first annual meeting of the Great Lakes Newspaper Mechanical Conference was held at the Cleveland Hotel on Saturday night, Sunday and Monday, October 27-28. Considering that this is the first conference of executives from the three states (Indiana, Michigan and Ohio), everybody seemed well pleased with the attendance which was in the neighborhood of 288 registrations, although there were 350 persons present. Some executives attended for one day only and didn't bother to register. A number of guest executives came from cities in neighboring states and distant cities. Among those from a distance were Walter E. Wines, representing the American Newspaper Publishers Association, and Joseph Pezdirtz, president of the Iowa Newspaper Mechanical Conference. Mr. Pezdirtz is production manager of the Des Moines (Ia.) *Register* and *Tribune*. M. George Martin, C. Frank Mann and J. C. Steele of the Louisville (Ky.) *Courier-Journal* and *Times*; Auburn Taylor and Paul Fite of the Charleston (W.Va.) *Gazette*; J. Harold Mintun and Harry F. Morris of the Pittsburgh *Post-Gazette*; Stanley Probst and John Lunder of Pittsburgh's Herbick & Held, all were in attendance.

## *Pre-Conference Meeting*

ON Saturday evening, October 27, a pre-conference buffet supper session was held. At this meeting, manufacturer and supplier representatives discussed new equipment and supplies so far as they cared to do so, and made comments upon expected delivery conditions within the industry with respect to new equipment. It was evident that a number of manufacturers are not yet ready to divulge postwar equipment plans. Some informative discussion by their representatives, however, was presented.

Among those who spoke at the New Developments meeting were Chris. Kaddeland, engineering department, of Harris-Seybold-Potter Co. He discussed offset's qualities as a printing process. He stated that while offset presses are operated at speeds of 1000 f.p.m., yet these speeds are not equal to high-speed letterpress newspaper printing. The process has not yet been made ready for large metropolitan newspapers. On the small paper, however, there are advantages in the process. He believes executives may look for improvements in offset-lith printing two years hence and that the science of electronics will play a major role in the newspaper field.

Joseph Goggin, representative of the Goss Printing Press Co., described Goss's new ink distribution system for newspaper presses and the tension stereo plate lockup[1]. Mr. Goggin said that on an experimental installation in a Minneapolis newspaper plant using the tension stereo plate lockup that one-fifth the number of web breaks occurred on the unit as compared to press units operating with standard locking means.

C. S. Davis of the Lake Erie Engineering Corp., discussed direct pressure stereo mat molding equipment. He said his firm is getting ready to lower molding pressures used in direct pressure molding. He is looking forward to the time when molding and drying of the mat will be accomplished in one operation.

Manny Caldwell of Sam'l Bingham's Son Mfg. Co., said roller manufacturers are aggressive and at all times strive to keep up with the industry's needs. The new presses which will operate at higher speeds has placed a new responsibility upon the roller manufacturer.

A. A. McNab of the Howard Flint Ink Co. mentioned that ink manufacturers take the blame for some things for which they are not responsible. He stated a number of new developments are being worked on by ink manufacturers. He cautioned those executives present to remember that there is a lot of pressroom equipment which will be used for a long time to come. This fact, plus the price the publisher will pay for ink will govern the appearance of many newspapers for some time. He also stated all ink manufacturers are striving to produce stronger and more brilliant colored ink, but in doing this, the ink manufacturers can't register colors for the pressroom. Their business is to make ink. He asked them to look at such problems realistically.

Vincent J. Ryan of Federated Metals Co. Div., American Smelting and Refining Co., mentioned that his company has developed something new but it is not yet ready to be released. He hopes, however, to make announcement by the time of the next Great Lakes meeting.

W. C. Roddy of Metals Refining Co., explained in detail his company's conception of new alloys for casting type slugs and regular and stereo color plates. He explained that better printing will bring revenue back to newspapers which has been lost over a period of time to competitive agencies. He asserted that type cast with these alloys won't go down under molding pressures and stereo plates possess smoothness and density of face.

John H. Plummer, Chicago manager for Intertype Corporation, discussed the

[1]See article by Chief Engineer Curtis Crafts, Goss Printing Press Co., in the March 1945 issue of **Printing Equipment Engineer.**

**Officers for Great Lakes Mechanical Newspaper Conference**—(Front row, left to right) Director Oscar C. Gneuhs, Mailing Foreman, Cleveland *News;* Secretary-Treasurer Al P. Oberg, Composing Room Supt., Flint (Mich.) *Journal;* President George H. Fuller, Stereotype Supt., Cleveland *Press;* Vice President Roy English, Photo-engraving Supt., Detroit *News*. (Back row, left to right) Director Wm. H. Williams, Mechanical Supt., Indianapolis *News;* Director Horace H. Parker, Press-Stereo Supt., Richmond (Ind.) *Palladium-Item;* Director Frank J. Salmon, Mechanical Supt., Grand Rapids (Mich.) *Herald*.

Other members of the Board of Directors (not present at the time this picture was taken) are: Levi E. White, Stereotype Foreman, Port Huron (Mich.) *Times-Herald;* Frank Duncan, Mechanical Supt., Portsmouth (O.) *Times*.

Plexiglass magazine and automatic temperature control for molds recently developed by his company. He also showed a specimen copy of a daily newspaper composed largely by Varityper and photo-engraving in Ft. Worth, Tex., for a several week period, and stated this development "furnished food for thought."

Homer Dunn, Chicago representative of Linotype Parts Co., discussed a new thermostatic control for line-composing machine electric pots which his company is about to put upon the market.

Clay Wellman, sales manager, Ludlow Typograph Co., stated his company has been handicapped with respect to materials and labor, but expects to be operating with full quotas by the first of the year. The company also hopes to catch up with matrix orders shortly. Shipments of new machines may be expected by early 1946. Ludlow has a program for the production of new type faces.

Gerald Hunter, representing Matrix Contrast Corporation, discussed the Black-and-White process for line-composing machines. He also discussed advantages of varying colors in the reference characters. If a wrong font matrix gets into a magazine the operator can detect it quickly in the assembling elevator and thus save many galley corrections; also, in case a pi stacker sort is needed, the operator can select it quickly by identifying the color of the reference character. Matrix Contrast's agencies keep complete lists of matrix fonts and colors used by customers so that when sort orders come through the service stations they are processed quickly and shipped with no time loss.

J. L. Bourque, executive offices, Mergenthaler Linotype Co., discussed at some length the immediate situation with respect to his company. He said he could see no radical departure from the present principle of composing and casting a slug by means of the circulating matrix. He said there will be refinements in the design and operation of the Linotype. He stated prices have been about the same for the past ten years. Meanwhile wages have increased 40 per cent. The problem at present is how to dispose of the increased cost of labor and materials. He assured the executives present that every avenue of saving in manufacture will be explored to avoid price increase. At the present time Linotype is getting all the brass it can use and his company expects to be caught up on matrices in three months. Delivery of machines is anticipated to be from 10 months to a year away.

Harvey Fishel, Lanston Monotype Machine Company representative, stated that Monotype has reopened its school for instruction in operation and maintenance of its machines.

Walter Morey, of Teletypesetter Corporation, spoke of the improved Teletypesetter equipment by means of which it is now possible for the machine to compose and cast all standard line-composing machine matrices. He also stated Teletypesetter has approximately 50 installations for postwar delivery.

Earl Lacure, field engineer of the Duplex Printing Press Co., announced that his company has developed two new newspaper printing presses. One of these is a tubular decker type press, consisting of from 1 to 4 units for 16 pages for the smaller and medium paper field. The other is a flatbed press with planetary drive and tapeless folder. His company has also developed a new stereo plate press lockup. Engineers in his company have been working on plastic plates to replace the conventional metal plate for the past six years. He believes the plastic plate is practical. These plates can be used on present presses.

## *Sunday Morning Conference Opening*

THE formal opening of the first Great Lakes Newspaper Mechanical Conference took place on Sunday morning, October 28. At this time, President George Fuller introduced Louis B. Seltzer, editor of the Cleveland *Press* and William G. Vorpe, Sunday editor of the Cleveland *Plain Dealer*. The keynote for the entire conference seemed to be expressed by Messrs. Seltzer and Vorpe. This was a desire on the part of the editorial representatives that better newspaper printing is needed urgently, particularly in view of the position in which the newspaper finds itself with respect to competitive agencies. The mechanical executives took up the theme seriously and threaded it through their discussions in all of the conference sessions.

## *Photo-engraving Session*

THE photo-engraving session discussion perhaps was the most aggressive of all. The securing of better photographic copy and better reproduction of pictures dominated this meeting. It is evident that pictures are an important part of the newspaper. Considerable criticism of photo services, equipment and methods came from the floor.

To start off the discussion, Chairman English of the Detroit *News*, asserted wire photo prints can be improved. During the war there has been a let-down in quality on account of the help. He qualified his criticism of wire-photos by stating that perhaps there has been a let-down, too, on photo-engraving.

Lester Yeager, production manager of the Indianapolis *Star*, thinks that the photo-mechanical methods used in picture reproduction have been pretty well advanced. The amount of money spent by users of wire-photo services is staggering. "What do we get out of them?" he queries and then answered the question himself: "Perhaps a dozen or two photos every day." He asserted that sometimes the pictures furnished are made by an office boy or copy girl if the chief goes away. The editor passes these pictures and if a complaint is made about the quality of a picture he says: "We've got to use it—it's the only one." "What we need," he continued, "is to make comparisons as to how magazines get good quality pictures. Newspapers must furnish not only good tools to the engraver but also good photos as well."

John J. Kelley, manager of the Cleveland AP Wire-Photo office felt that such conditions do not apply to Cleveland. On the whole, the Cleveland AP service tries to give the papers what they want. He said there had been an improvement in Wire-photo service during the past two or three weeks.

Mr. Kelly explained that the receiver can only reproduce what is put into it. If the original is poor, the resultant picture will be of no better quality.

L. A. Thompson, Chief Telephoto Engineer of NEA-Acme, stated it has been the experience of his firm that one paper wants a snappy print, and another wants a flat print. Apparently there isn't agreement among users as to what constitutes a good picture.

### The Engraver's Problem

Chairman English remarked that the best print gives separation in the middletones. If the highlights are too light the dots in the engraving become too much like pin points. The main thing with photo-engravers is to be provided with a picture which will permit separation of the middletones. The engraver must keep the dot in the highlights. He is continuously fighting also to keep open the middletones.

Joseph E. Craven, Photographer, Indianapolis *Star*, arose to inquire whether most photographs should carry blue-black or olive tones. L. A. Thompson of NEA-Acme, expressed his belief that blue-black pictures reproduce better.

John Belgrave, Photo-engraving Supt. of NEA-Acme, confirmed Chairman English's opinion respecting middletones. He summed it up by stating engravers want "a smooth picture—one that is not hard."

Leon A. Link, Production Manager, Cleveland *Plain Dealer*, said most pictures originate in the newspaper plant. He asserted that equipment used by some photographers is suitable for an amateur. It appears that in some plants it takes a meeting of the board of directors to buy a new camera. "It is a shame some editors ever owned a brownie camera," he said. "What is needed," he continued, "is to get honest-to-God modern equipment into the photographers' hands."

### Securing Good Pictures Locally

Lester Yeager, Production Manager of the Indianapolis *Star*, brought up the subject of professional studio photographs which find their way into the society columns. Apparently, a person will give the society editor a beautifully

**Groups of Men Attending the First Annual Meeting of the Great Lakes Newspaper Mechanical Conference**

**1**—Charles D. Adkins, Mid-West Manager, Geo. H. Morrill Co. Div. of General Printing Ink Corp., and Paul Brannon, Pressroom Superintendent, the Cleveland *Press*.

**2**—W. Roy Manny, President, Atlantic Zinc Works, and Harold Burns, Chicago Manager for Chemco Photoproducts, Inc.

**3**—Lester Yeager, Production Manager, and Joseph Craven, Photographer, both of Indianapolis *Star*.

**4**—John A. Burke, Production Manager, Gannett Newspapers, Rochester, New York, and Geo. H. Fuller, Stereotype Superintendent, the Cleveland *Press*.

**5**—Harry Wilson, Representative, Mergenthaler Linotype Co.; Don Burgoon, Composing Room Supt., Columbus (O.) *Citizen;* Wilford Coddington, Composing Room Supt., Youngstown (O.) *Vindicator;* James Kelleher, Composing Room Supt., Cleveland *Press*.

**6**—Gilbert Finch, Machinist and George Reid, Composing Room Supt., Saginaw (Mich.) *News*.

**7**—M. Geo. Martin, Production Manager, Louisville (Ky.) *Courier-Journal* and *Times;* Rollo Lewis, Sales Manager, Beveridge Paper Co.

**8**—J. Homer Winkler, Asst. Supervisor, Graphic Arts Div., Battelle Memorial Institute, Columbus, O.; Auburn Taylor, Pressroom Supt., Charleston (W.Va.) *Gazette;* and Frank Duncan, Mechanical Supt., Portsmouth (O.) *Times*.

**9**—Walter Moser, Representative, Metals Refining Co.; John Chryst, Stereotype Foreman, Indianapolis *Star;* Frank L. Kreutz, Representative, Metals Refining Co.

**10**—Leon A. Link, Production Manager, Cleveland *Plain Dealer;* J. Harold Mintun, Production Manager, Pittsburgh *Post-Gazette;* Charles Buttermore, Asst. Mechanical Supt., the Cleveland *News;* John O. King, Manager, Ludlow Typograph Co.

**11**—J. Terrance Mahan, Stereotype Supt., Akron (O.) *Beacon-Journal;* Edgar Mills, President, Eastern Newspaper Supply; Howard Healy, Mechanical Supt., Ashtabula (O.) *Star-Beacon;* J. C. Steele, Stereotype Supt., Louisville (Ky.) *Courier-Journal* and *Times*.

soft picture which is of no value for photo-engraving copy. He said newspapers should take lessons from Hollywood promotion pictures in which one can see the girls' eyelashes. Yeager made the suggestion that some way should be devised to contact studio photographers so that suitable pictures can be furnished newspapers.

Charles Kirk, Stereotype Supt. of the Detroit *News*, related that the commercial photographers held a meeting recently in Detroit. Some of the photographers complained that newspapers did not use credit lines with their photos. Some of the other photographers, however, stated the reproductions were so poor they didn't want credit lines. Mr. Kirk suggested that executives contact photographers in their respective cities with the idea that they furnish a glossy print, rubber stamped by the photographer as being suitable for newspaper reproduction.

In discussing the soft pictures which mechanical executives had been complaining about, Herb Rebman, Cleveland *Plain Dealer* photographer, suggested that newspapers ask for a non-diffused picture. He said that when a photographer is making up pictures for a customer it would be easy enough to

(*Continued on Page 31*)

# Should a Letterpress Printer Install Offset Equipment?

By WALTER E. SODERSTROM*

**Executive Secretary, National Association of Photo-Lithographers. Abstract of address before the 59th annual meeting of Printing Industry of America, Pittsburgh, October 1945.*

MANY printers have come to me and said that they are planning to install lithographic equipment so as to be able to compete with established lithographers in their areas. However very few of them have any real idea of what they will produce in this field. They say that they want to set up to play the field—to produce everything of which a litho press is capable.

Now anyone who plans on coming into the lithographic industry should be absolutely sure of his reasons. He should know why he wants to install litho equipment, what kind of work he will produce, whether there is a market for this work, what competition already exists, and what capital investment is necessary and how much working capital he should have available. He should know something about the availability of skilled craftsmen whether they are available at scale or premium wages, and whether or not he can train litho help within a short time. He should have a definite knowledge of hourly costs and production standards in the industry, and what volume must be produced during the first year in order to cover costs.

### Surveying the Field

But above all else, a printer may well ask himself if he plans to install litho equipment because he is losing business to litho competition or, simply because the fields look green. He should be very sure of what competition now exists in his sales area—the number and size of presses and the products sold. He must survey both his present letterpress plant and the proposed additions to it in the light of his clients' requirements. Equipment manufacturers are not at all interested in selling to anyone who does not have sound reasoning behind his purchase.

So at the outset be sure to understand that no one can tell a letterpress printer that he should or should not install litho equipment, unless such recommendation is based on a thorough and intelligent survey of the newcomer's experience, men, market and finances.

### Is There a Price Advantage in Lithography Over Letterpress?

This question is often asked by both buyers and the initiate. There is no general answer. Lithography has certain advantages over letterpress on certain kinds of work and the reverse is true. No one can say that one Graphic Arts process is less expensive than the other. The answer to the question can be obtained only by considering a certain kind of work or a specific job, with the application of lithographic hourly cost and production standards, and letterpress hourly cost and production standards on the same identical specifications. The cost of lithographic equipment is much higher than letterpress equipment of the same size. Lithographic presses, however, run faster than most printing presses. There are so many variable factors in considering the price advantage question that no one can answer either way unless one actually estimates on specific work by both processes.

If the industry work were to be divided generally into three groups one would find:

(a) A group of houses producing specialties.

(b) A group producing high-grade color and tailor-made black and white work.

(c) A large group of houses producing an occasional color job and much black and white work (some of it termed photo-lithography) and combination work produced for many customers on an inexpensive sulphite bond.

### Determine Kind of Work You'll Do

The letterpress printer ought to determine in advance of the purchase of any equipment, what kind of work he intends to produce. If he is to be in competition on such items as labels he ought to have multi-color presses 41 in. by 54 in. If he is to produce books, the presses ought to be 41 in. by 54 in. in single or multi-color, depending on the kind of books which are to be produced. If he is to produce displays and posters he ought to have single or better, multi-color presses, 41 in. by 64 in. in size. If he is going to produce, say, maps or greeting cards he ought to consider the 46 in by 68 in. multi-color press. Furthermore, if he is to produce black and white work in combination on a standard sulphite bond sheet, he ought to have a press which will take multiples of 8½ to 11 in. size, say, the 22 in. by 34 in. or 34 in. by 44 in. If he is going to produce a general line of broadsides, folders and general commercial work in black and white or color, he can consider the desirable size of press in the light of a survey of the letterpress work he turned out for a year or two past.

Any letterpress printer who plans to install litho equipment should get out his job tickets for the past year or two and survey first, the size of sheets run; second, the kind of paper used, third, the colors run and finally whether these jobs were typical letterpress or typical litho. Set up a simple survey something like this:

**SURVEY ON WORK PRODUCED IN OUR PLANT FROM JANUARY TO DECEMBER 1944**

| Job No. | Sheet Measurements | | | Kind of Paper Stock | Colors Run | Comments on Jobs |
|---|---|---|---|---|---|---|
| | Up to 17x22 | Over 17x22 to 22x34 | Over 22x34 | | | |
| 1234 | 1000 | ..... | ..... | 20 lb. Bond | 1 | All line |
| 1249 | ..... | 15000 | ..... | 70 " Coated | 3 | 36 HT |
| 1311 | ..... | ..... | 2500 | 60 " Offset | 2 | All line |
| 1410 | 12000 | 61000 | ..... | 50 " Offset | 1 | Line and HT |
| 1421 | 6500 | ..... | ..... | 16 " Bond | 1 | Line |
| 1461 | ..... | ..... | 7000 | 50 " Offset | 2 | HT and Solids |
| 1480 | 1600 | ..... | ..... | 20 " Bond | 2 | Type |
| 1491 | 3800 | ..... | ..... | 50 " Offset | 2 | Line and Reverse |
| 1506 | ..... | 4000 | ..... | 60 " Coated | 1 | Line |
| 1521 | ..... | ..... | 9000 | 60 " Coated | 3 | HT |
| | 24900 | 80000 | 18500 | | | |

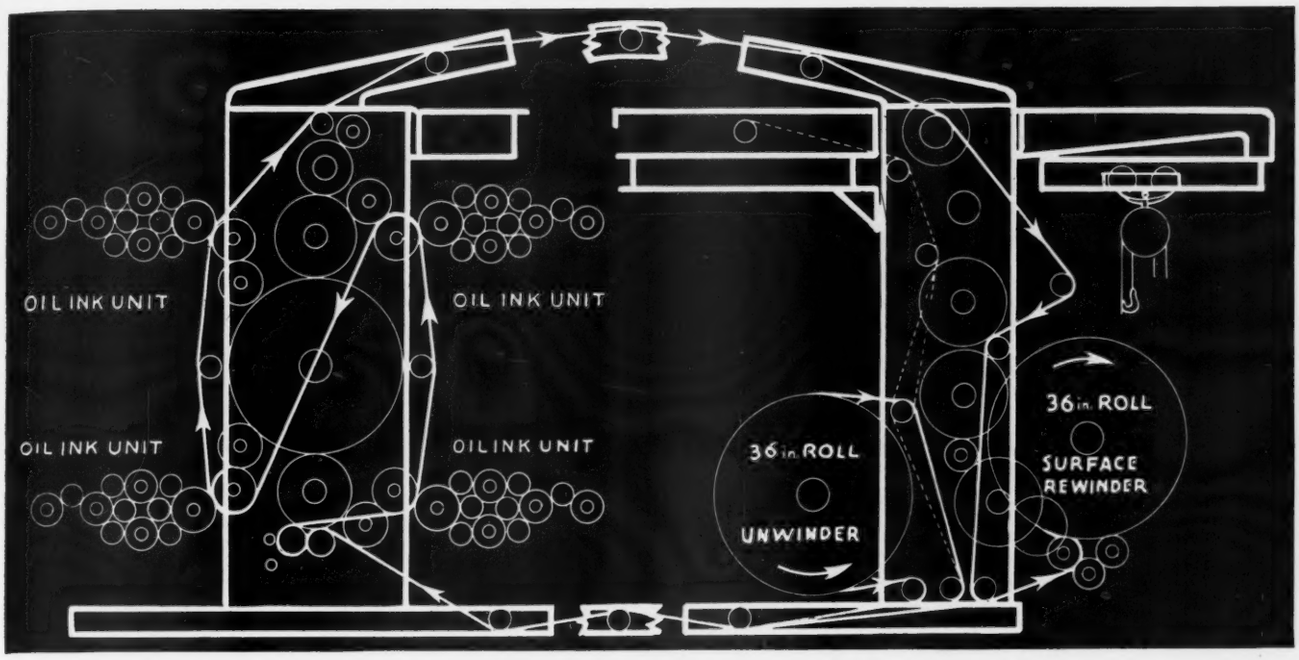
Measure past performances from your customers' likes and dislikes. Certainly little can be lost in asking their guidance but don't phrase your questions so that the only answer can be an affirmative

*(Continued on Page 33)*

**ANNOUNCEMENT**

Russell Birchfield, **Printing Equipment Engineer's** Eastern advertising representative, has again opened an office at 509 Fifth Ave., New York, N. Y. His phone number is VAnderbilt 6-0890. He will be pleased to take care of any matters pertaining to the wants of those who in any way wish to contact this magazine. In turn, he will call upon printing equipment and supplies manufacturers regularly.

Mr. Birchfield was recently discharged from the Army Engineers attached to the Air Force. He held the rank of captain and was Engineer in Charge at the Army Air Base, Dover, Del.




Diagrammatic side elevation showing aniline printer for printing cellophanes, wax paper, kraft papers, cardboards, glassines, cloths and rubberized goods. Straight or reverse printing; 8 in. to 48 in. circ. by 48 in. wide; with center rewinder and mono-roll or rotogravure attachments.

# *Aniline Printing . . .*

**Principle of process explained—Platemaking, printing technique and equipment discussed—Its utilities enumerated.**

**By HANS J. LUEHRS***

**Engineering Department, C. B. Cottrell & Sons Co., Westerly, R. I.*

II.

## 4. Inks for Aniline Printing.

BASICALLY aniline inks are organic. They are derived from coal tar by distillation in the form of chemical dyes. The demand for improved aniline printing justified the extended research work which was conducted by several of the leading ink manufacturers, resulting in the various aniline inks which are now available.

Alcohol is the most important solvent used in aniline ink. However, especially fast drying inks require additional soluble dryers. To improve body, fastness or printing quality other substances are added.

For metal foils, parchment or wax paper, and cellophane special inks are required to improve tack and drying quality.

Aniline inks for widely different purposes are available in powder form as well as in ready-to-use inks in a wide range of colors.

Organic aniline inks mostly have blending properties and in work on colored paper this fact must be considered. In such cases previous tests should be made to prove the feasibility of the resulting color values. The printing does not present any difficulties if the plates are accurate and the impressions are held light.

The inks have to be thinned in a suitable jar, preferably with a glass stick until the desired color value is obtained. The fountain must be cleaned before the ink is supplied. While printing, alcohol must be added from time to time to maintain the starting consistency which would otherwise be lost because of evaporation.

The pigmented aniline inks require more care than the organic ones. These pigmented inks, contrary to the organic ones, contain color pigments which are not solvent in the vehicle. These color pigments are suspended in the vehicle. This balanced equilibrium is lost if too much alcohol is added. This should be avoided.

These inks also tend to dry quickly on plates and rolls and in cases of longer stops, plates and rollers must be cleaned before printing is resumed. Printing with pigmented inks requires more skill in regard to impression adjustments.

The press must be of a reasonably substantial construction and all revolving cylinders and rollers must run true. The ink transfer and fountain rolls must be finely set, as too much ink results in poor printing. Fine type or screen work presents difficulties.

Pigmented inks are generally available ready-to-use and should not be thinned out. However, in long runs alcohol must be added as the consistency increases to avoid dirty plates.

Pigmented inks must be well shaken before they are used. The ink supply should be held low and the plates kept clean. Alcohol must be added gradually as required and well mixed into the ink.

In case of stops, all press cylinders and rollers must be thrown off contact immediately and cleaned before starting again. Pigmented aniline ink must not be mixed with organic aniline ink.

In cases where sunfast or waterproof colors are required, the same rules as for other aniline pigmented inks must be observed.

A lacquer with an alcohol base should never be applied over aniline inks because they are solvent in alcohol. In such case the sharp and clear impressions would be destroyed. Oil varnish can be used instead. It is always recommended to consult the ink manufacturer when such special cases arise. Other requirements demanded are acid-proof qualities for certain materials.

A difficult problem is presented in the printing of fat, butter and cheese wrappers. The inks have to be permanent against the action of the fats, the moisture of the goods, as well as against the salts and chemicals present in parchment papers. Successful inks for any one of the above cases are available. However, if all

these requirements must be met simultaneously, then it is recommended that oil inks be used because the hardening oil protects the pigments against the action of almost any chemical influence.

To prevent or rather reduce the evaporation of aniline inks while printing, care must be taken to keep the ink level in the fountains as low as possible. In continuous runs automatic supply apparatus are useful.

If possible the different fountains should be reserved for similar colors. Special care must be taken with the light colors which are extremely sensitive. In any case, all fountains must be absolutely clean before a new color is used.

Especially attractive combinations can be created with application of bronze colors. In conjunction with aniline inks generally the same rules apply in this work as with other aniline pigmented inks.

It is not attempted to mention color combinations in this article nor to recommend certain inks or papers. They must be chosen according to the individual taste or purpose.

It is recommended, however, to present samples of shades, stocks and requirements to the manufacturer when purchasing inks. Varieties of aniline inks to suit manifold demands in respect to color values, shades or other requirement ranges are as wide as is the case with the other printing processes.

## 5. Paper for Aniline Printing.

THE kinds of papers or other materials used with aniline printing are of many varieties. The most important materials used in the paper industry are wood pulp and cellulose. Linen and certain vegetable fibres are sometimes used but are of lesser importance for aniline printing.

Wood pulp used for kraft, newsprint and other common papers are made from logs fed through the chopper. With sufficient quantities of water added it is strained, refined or digested and finally ground into a suitable consistency and fed over the screen through the paper machine.

The desired hardness of the paper is obtained by adding a binder in the form of an organic glue. Soft, absorbent papers are less suitable for aniline printing than the harder ones. Aniline inks are inclined to show bled outlines when applied to the first printing in color work.

The grades of paper used with aniline printing are vitally important. Many failures, sometimes blamed on rubber plates and inks, have been caused by paper which was not suitable for the purpose.

Good grade sulphite pulp and sulphite and bleached kraft papers are suitable. Glassine and grease-proof papers do well. Good results are obtained with parchment, paper foil, metal foil, cellophane and diaphane. These latter materials are especially adapted and are responsible for the increasing popularity of aniline printing.

The thickness of the stock is of minor importance since 10 lb. to 50 lb. materials are handled equally well. However, the strength of the stock deserves consideration if high speed in conjunction with tubers and bag machines is desirable.

Practical storage methods for papers and other materials influence the success of aniline printing to the same extent as it does other printing processes. Lopsided rolls should be avoided if multicolor work with good register is demanded. The storage room should be fairly dry with an even temperature. Bright lights and fresh air must be avoided. When light fastness is demanded, fast aniline inks will only be fast if the paper used is fast. It can be seen that the selection of papers is closely related to the inks.

## 6. Register for Aniline Printing.

IN REVERSE printing, the alignment of type matter is relatively simple. But register of colors in multi-color work presents difficulties even in relief printing with metal plates. It is more pronounced in aniline printing with rubber plates. Means to overcome the problems relative to register have been introduced. Rubber plates have interlayers of nonshrinkable fabric to prevent undue distortion and the thermoset plastic used for the matrix practically is not affected by shrinkage.

The platemaking process, starting with preparation of the original, must be followed through carefully. Positioning the plates on the various press cylinders requires the utmost care. To facilitate the procedure, longitudinal and circumferencial register lines are provided on the cylinder surfaces. The plates have identical marks on their margins whereby proper interrelative locations or the register lines are assured.

These cylinders can be brought into register with each other by their circumferencial as well as their longitudinal adjustment. With two designs around and two across, special care must be taken to have exact locations because no adjustment can be made as is the case with the various cylinders.

In such cases, the different plates located on one cylinder should be placed before the cylinder goes to press to assure the most accurate location possible. It is also recommended for the same reason to have an even number of spacing lines around and across the surface of the cylinder which may be divisible by four. All cylinders of any one repeat must also be identical in regard to these spacings.

On runs with expensive materials it is advisable to start with an inexpensive paper until register, makeready and color shades are satisfactory. Thereafter, the actual printing can begin and unnecessary waste is avoided.

Complaints of clouding, especially on large solids are common. The causes are manifold. It may be due to an uneven plate, excessively diluted inks or to the paper which may have an uneven coating. Rolls with flats may be responsible for the defect.

Feathering and smudged outlines are invariably caused by too much impression. It should be remembered that the success of rubber plate painting depends to a great extent on the impression contact. The pressure must be light and the printing and gear pitch must be identical. Excessive wear of the plate will be experienced if the above condition is not maintained.

Attention must be paid to the running web. The formation of creases indicates an uneven and tapered paper roll, or lead rolls and cylinders which are out of level, or out of square. The roll brake tension must be moderate and should be gradually released as the roll is expiring while the rewind tension should be increased in the same proportion, as the roll builds up. The web must be held under a moderate and even tension. Too tight a web tension leads to paper breaks. A slack web will cause register trouble. The proper and uniform tension which may be required for a perfect and continuous performance can only be acquired by experience and careful attention.

## 7. Aniline Presses.

ANILINE Printing as mentioned previously has no relation to offset or rotogravure printing. It is a typographical printing process whereby the ink is deposited upon the raised type or line cuts of a rubber plate, thereafter to be transferred upon the paper or other materials.

In aniline presses, full advantage is taken of the fast-drying inks and the fountains are arranged accordingly. They are simple in design and contain in most cases only a fountain roll and a transfer roll to govern the ink supply. Conventional oil ink distribution with vibrators and form rollers are not suitable because aniline inks would be dried before the form rollers are reached. A single roller system has been introduced recently and good results for certain classes of work have been obtained. This system utilizes a screened ink roll with an ink-controlling doctor blade attached, the former supplying the ink to the plates.

The plate cylinders do not require lockups, can be reasonably light in construction and are interchangeable for various repeats. These features are typical of aniline printing and offer wide flexibilities in regard to plate layouts, sizes and color combination. Impression cylinders are also continuous and reel rods and tympans are not required.

Aniline presses may be divided into three basic groups. Web presses from roll to roll, web presses from roll to sheeter, bag machine or folder and the sheet-fed aniline presses.

Characteristics of a modern aniline web printing press offer possibilities with regard to various repeats, color combinations and other flexibilities. The first two could be combined into one group because aniline web printers will be available in many combinations with

center or surface rewinders, sheeters, folders or bag machines.

The web leads and the arrangement of the individual units for color work and the location of paper rolls vary to a great extent. Some presses have the units arranged in a vertical manner, others follow the horizontal order while others are grouped around a common impression cylinder.

All these arrangements were intended for a definite purpose and such presses can be found in the converter industry producing successfully certain work for which they were intended.

The tendency in regard to constructive features points towards flexibility of purpose, possibilities for good color combinations, reverse printing, maximum variation of repeats, drives for possible bag machine or sheeter attachments, provisions for interchanging of aniline units with rotogravure or oil ink units in all positions and a drying space after printing of at least 20 ft. of web lead.

A diagrammatical drawing of an aniline printer of the most flexible type with provisions for many combinations is shown below.

## 8. Paper Roll Mounting and Tension.

THE mounting of the white roll is done with cones similar to those used in the newspaper or magazine field. They are mostly self locking and are provided with sharp edged ribs to secure a firm hold on the core, which in most rolls used for aniline printing lack metal ferrules. In mounting a roll the roll must be placed in the press with regards to the side to be printed first. For fast runs, damaged or lopsided rolls should be rejected.

After the web is threaded and printing is commenced, immediate attention should be paid to the side lay and paper brake and corrections made accordingly. The brake provided may be found in many forms from a simple pair of wooden blocks acting on the spindle to hydraulically operated air-cooled disk brakes. A suitable brake to handle all light as well as heavy stocks consists of an air-cooled Vee pulley engaging specially lined straps which can be actuated manually or automatically as desired. A sensitive paper brake contributes greatly to the register of the colors and to high production.

## 9. Feed-Draw and Lead Rollers.

DRIVEN feed rolls, located between white roll and first color in this writer's opinion, are essential in good aniline printing. These rolls serve to eliminate web roll tension, fluctuation from the web while being printed, and they also feed the web into the printing zone at the required speed. The flexibility of rubber printing plates necessitates a web speed which affords a true rolling printing contact combined with slightest possible impression pressure between plate and impression cylinder. Any slight deviation from the proper surface speed causes a slur or color register trouble. This proper speed, however, cannot be maintained, as the stock to be printed may be heavy or light or rough or smooth surfaced as the case may be. Consequently, a slight change of the diameter of the feed roll to suit the various conditions is desirable.

The draw rolls located between press and rewinder serve to draw the printed web from the press and feed it into the rewinder. They keep the web under a light tension and prevent tension variations of the rewinder to act in the printing zone.

The draw roll near the rewind can be provided with a slitter attachment if desired and is therefore driven for this purpose.

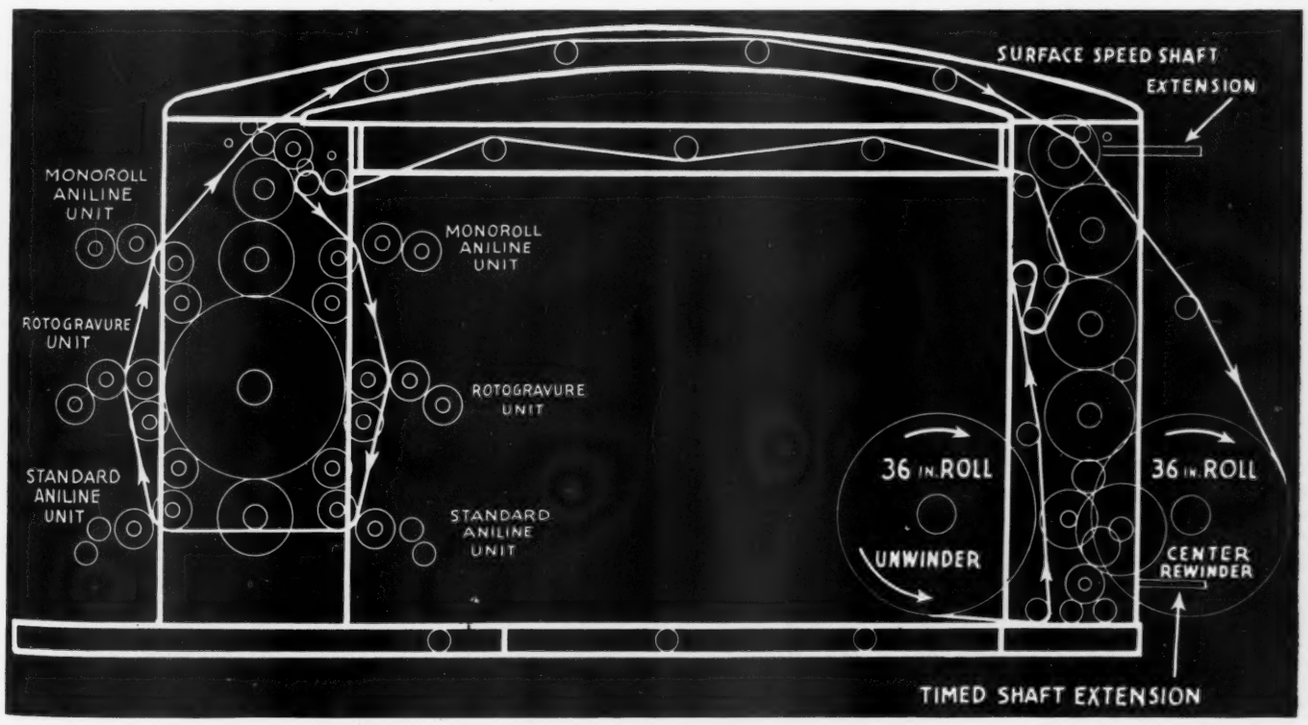
All feed, draw and lead rolls must be mounted squarely to the press frames and parallel to each other. They must run true and easy with the least amount of friction to prevent diagonal creases or breaks of the web.

## 10. Rewind Mechanism.

GOOD printing and color register requires a smooth and even pull of the rewinder. Rewound rolls must be firm and tight to stand handling. Most rewinders work on the principle of frictional resistance provided by friction clutches, while others employ hydraulic drives or surface rewinders if offsetting is not objectionable.

A new air-cooled rewind clutch has been proved in the field. It is arranged in two stages in order to reduce the frictional surface speed of the clutch disks, because slow frictional speeds create frictional resistance which is proportional to the pressure applied. Therefore, an even and easily adjustable tension is assured. Rolls up to 36 in. diam. may be rewound but it is important to start a new roll firmly because a soft core may not support a heavy roll properly. Also, care should be taken to wedge the core solidly on the rewind shaft, when the roll is started.

With a new white roll the paper brake action must be at its maximum and then released gradually if no automatic tension is provided, as the roll is expiring. The rewind clutch, however, should be




**Diagrammatic side elevation showing aniline printer with surface rewinder and loading rail (upper right corner); 18 in. to 48 in. circ. by 48 in. wide.**

set light at the start and tightened as the printed rewinding roll builds up. A little experience will soon tell that both adjustments can be made simultaneously to maintain an even tension in the web.

To prevent lost time the new white roll should be coned to the extra white roll shaft to be ready to go into the press. The expiring web should be used to thread the new web and the rewind shaft with core ready to go into press as soon as the printed roll is removed. Thereafter the new web is attached to its new core and printing is resumed.

### 11. Aniline Fountains.

ANILINE inks do not require the elaborate distribution which is essential with oil ink. The travel between fountains and plates must be short because the inks dry quickly and spread easily.

In one make of press the fountain mechanism is relatively simple. The fountain itself consists of an acid-resistant trough in which the fountain roll, partly submerged in the ink, revolves. The transfer roll coacting with the former permits only a small amount of ink to pass the line contact while the surplus ink returns into the fountain to serve as an agitator. Both rolls are adjustably mounted on a common sliding bracket which in itself is adjustable in respect to the plate cylinder.

The rubber covered fountain and transfer roll contact pressure controls the ink supply while the transfer and plate cylinder contact serves to deposit the ink to the plates.

The plate cylinder is mounted on another slide to allow an adjustment in respect to the fixed impression cylinder without disturbing the relation between the former and the fountain rolls. This adjustment in its full range serves also to accommodate the various plate cylinders within the range of the press.

A quick so-called throw off is provided to break the various contacts between fountain rolls, plate cylinders and impression cylinders simultaneously to prevent adhesions when printing is interrupted. This throw off is accomplished by a simple limited motion and all cylinders can be thrown back into proper contact instantly if printing is to be resumed.

No printing method requires such a fine adjustment between impression and plate cylinder, between plate cylinder and transfer roll and especially between the transfer and fountain roll. The latter contact is most important in regard to the amount of ink to be supplied. For the same reason flats on the periphery or eccentricity of the ink rollers must be avoided.

The characteristic of the rubber printing plate requires a light impression pressure and eccentricities of plate or impression cylinders present difficulties.

It should never be attempted to overcome these difficulties by heavier impression pressures because such a remedy will only cause bad feathering and shorten the life of the plate.

The previously mentioned fact that aniline inks evaporate rapidly, due to their alcohol base, makes it desirable that fountains should be kept covered to reduce this tendency. The possibility of pressroom temperature control will also be helpful in this respect.

### 12. Aniline Printing for Cellophane.

THE printing of cellophane and other synthetic materials requires more care than when printing on paper and presents problems which must be met to produce satisfactory results.

The inks do not penetrate the surface of these materials, are not absorbed and are therefore required to dry on the surface. Oil inks used in former years for this work did not permit immediate rewinding and even with anti-offset webs, offsetting of those slow drying inks could not be prevented. Aniline printing inks, however, eliminated these difficulties and multicolor work is now done on cellophane from roll to roll or bag machine without difficulties.

Specially prepared inks must be used for the purpose to overcome drying difficulties. A solvent in these inks dissolves the surface of the cellophane chemically to facilitate adhesion of the color pigments to the stock.

In connection with paper the opacity of the paper itself does not require strictly opaque inks, while for cellophane printing the transparency of the material requires inks with sufficient opacity or at least a background having such property to assure attractive results.

On the other hand only slightly opaque inks can be applied if an attractive colored appearance may add to the sales appeal of the wrapped product.

Register of color work on cellophane requires closest attention. The flexibility of the material requires a light and uniform tension. Any deviation causes jumps and register trouble.

Infrared heat radiation and air are suitable for drying to increase web speeds. But the possible speed depends naturally on the color combinations, the properties of the inks and the amount of the over print.

*(Concluded)*

## More Than Half Subscribed

Following the meeting of the Printing Industry of America, Inc., held in Pittsburgh in October, Glen U. Cleeton, Chairman of the Carnegie Institute of Technology Printing Endowment Fund, reported that more than half of the proposed amount of $500,000, set as a goal for July 1, 1946, had been subscribed. Included among gifts for research and scholarship to the Department of Printing are several amounting to more than $500 each.

Sixteen cities are represented among the printing firms making contributions of $100 or more. Persons wishing to make contributions or desiring further information should write to Glen U. Cleeton, Chairman, Printing Endowment Fund, Carnegie Institute of Technology, Pittsburgh 13, Pa.

## WPB Gives Forecast on Printing Trades Machinery

RECONVERSION in the printing trades machinery industry will be slower than in most industrial activities and it will be seven months before new printing presses and other machines can be produced, in quantity, the War Production Board's Printing and Publishing Division announced on October 11.

In explaining the delay in completion of printing trades machinery, WPB said that machinery of this type is very complicated and cannot be made and assembled quickly. Ordinarily it requires from six to eight months to complete a printing machine and ship it when plants are in normal operation. But under present conditions, involving clearing plants of war inventories, fixtures and tools and securing castings and other materials, it will take longer to get into regular operation, WPB said. Many manufacturers report serious difficulties in getting castings, which represent 75 per cent by weight of the finished machines.

Indications are that by June, 1946, estimated monthly production will be about $6,400,000, WPB revealed.

Under normal conditions, printing trades machinery is completed and shipped at a rate of over $4,000,000 worth a month (the 1939 figure), but production and shipments totaled only $2,000,000 last month. The value of the total output of printing equipment builders during the past eighteen months has ranged from $42,000,000 to $46,000,000 per quarter, or at the rate of $180,000,000 per annum. Few of the products delivered, however, were printing machinery; over 84 per cent were gun mounts, recoil mechanisms, shells, rockets, radar equipment, range finding apparatus and machine tools.

The total overall value of each four months' shipments equalled the value of a whole year's shipment of pre-war production of printing machinery alone.

For the first seven months of 1945, printing machinery manufacturers were 82.5 per cent converted to war work, against an average of 32.6 per cent for 60 industries producing metal products before the war, WPB said.

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### Graphic Arts Kodak Bulletin

For the No. 7 issue of *Bulletin for the Graphic Arts*, Eastman Kodak Co. presents a portfolio consisting partly of inserts which have appeared frequently in popular photographic magazines. Although published originally for amateur photographers the inserts contain information of interest to professionals, including photo-engravers. The inserts are printed by excellent four-color process. One of the articles is entitled "Picture Contrast in Halftones; another is kodagraph contact screens; small apertures cause loss of definition with chart supporting the argument.

# Equipment and Supplies

View of steel cabinet enclosing Varitronic Electronic Variable Speed Motor Control. Controls utilize a.c. current to drive standard d.c. motors. Manufacturer states the Controls are available in sizes from fractional h.p. in single phase to those from 1 h.p. to 500 h.p., 3 ph.

### Varitronic Variable Speed Motor Controls

VARITRONIC variable speed drives, announces Electron Equipment Corporation, are available. These controls utilize current from a.c. lines to drive all makes or sizes of standard d.c. motors at any speed variation desired.

Varitronic Motor Controls, announces manufacturer, are available in sizes from fractional horsepower in single phase to those from 1 h.p. to 500 h.p., 3 ph.

These electronic controls states manufacturer, provide automatic starting and fast, stepless acceleration. Inching, quick reversing, and immediate dynamic braking are additional available features.

While these Varitronic controls have been developed for industry in general, Electron Equipment Corporation states they are suitable for a number of applications in the Graphic Arts industry, among which are drives for paper converting, waxing machines, roller presses, flatbed presses, stitching and binding machines and corrugating machines.

Varitronic motor controls are assembled with all transformers, tubes, and control stations within a compact steel cabinet.

The manual control station may be mounted directly on the control cabinet, attached to the machine itself, or set up at a distant point for remote operation.

The controls employ Varitronic control systems. As no distortion of the wave form takes place, the power factor is high at any speed. Whether the d.c. motors employed are wound shunt, compound or series, asserts manufacturers, they will develop improved performance characteristics when operated by Varitronic controls. Armature and field voltages are varied electronically.

Full range speed operation of Varitronic controls is directed by a single dial and pre-selected speeds may be set at any point required. Single lever control for starting, stopping, reversing and automatic braking may be provided. Foot controls also are available. Speed ranges up to 100 to 1 are completely controlled.

Further information including Bulletin No. 178 is available from the Corporation or *Printing Equipment Engineer* will pass along your request.

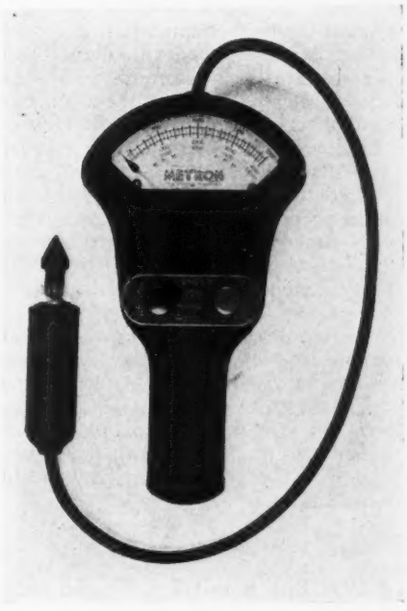
### Metron Portable Tachometer

METRON INSTRUMENT COMPANY announces development of a portable hand tachometer. It consists of two units—the head, which is placed in contact with a rotating shaft, and the electrical indicating unit to which this head is connected by a flexible electric cable. The rotating shaft operates a set of contacts through a positive straight-line motion cam mechanism so designed as to open and close the contacts periodically without utilizing a spring return mechanism. Motion produced by this cam mechanism is approx. 1/16 in. The cam mechanism is self-lubricating. The electrical unit may be operated from batteries or from 115 v., a.c. power. The electrical unit consists of a reactance circuit in conjunction with a metering circuit so arranged that when the reactance circuit is energized periodically by the power source through the contacts in the head unit, the deflection of the indicating instrument is directly proportional to the speed of rotation of the tachometer shaft. Manufacturer claims that since the speed of rotation of this shaft and the supply voltage are the only two factors which influence the reading of the indicating instrument, this tachometer has a high degree of accuracy.

The battery operated type of tachometer a 1 in. flashlight cell is used. Provision is made for checking its condition and compensating for reduced voltage. Information is given that less than 1 milliampere is drawn from the battery, so that its life is practically the same as its shelf life.

The Metron tachometer works on either clockwise or counterclockwise rotating shafts. Is not affected by magnetic fields.

The tachometer is furnished either in portable type as shown in the illustration, or for fixed installations on switchboards. In fixed installations, where it is desirable to monitor several rotating shafts are the same time, several heads may be used in conjunction with one indicating or recording unit with a manual switch for switching from one head to another, or a clock mechanism for




**View of Metron Portable Tachometer. Furnished also in permanent switchboard type. The minimum speed of the standard Type 25A Hand Tachometer is 100 r.p.m. However, manufacturer makes a 10 to 1 speed increaser with which the minimum speed that can be measured is 10 r.p.m. The maximum speed is 10,000 r.p.m. On the dial, are one r.p.m. scale and one f.p.m. scale. The figures on the dial are for either feet per minute or revolutions per minute. For instance, the top scale range is from 0 to 2000 which may be translated into 0 to 2000 f.p.m. or 0 to 2000 r.p.m. depending upon whether or not the spindle is directly engaged with the rotating shaft or whether the disk is used on the spindle with the periphery of the disk contacted with a moving surface. The two bottom scales (0 to 4000 and 0 to 10,000) also apply to f.p.m. and r.p.m. depending upon whether or not the disk is being used.**

switching periodically from one to another.

Manufacturer claims (1) Cannot be damaged by overspeeding or changing range while making measurements, (2) One rotating part permanently lubricated in ball bearings, (3) Easy-to-make measurements in cramped quarters, and (4) Low driving torque—¼ ounce-inch, does not slow down low-power devices.

Further information may be secured from Metron Instrument Co., direct, or through *Printing Equipment Engineer*.

### Korker Newspaper Press Blanket

A NEW rotary printing press blanket has been announced by Tingue, Brown & Co. It has been named Korker. The blanket is an adaptation of army twill to peacetime use. Properties claimed are that it almost eliminates sidewise creep and forward stretch; it also provides resiliency. The quality of resiliency has been obtained by rearrangement of the air cells in the cork layer.

It is also claimed by manufacturer that the new fabric controls to a far greater extent the manner in which the cork cells are keyed together. Canvas, duck and other fabrics, it is said, have permitted the cork to work through, whereas the twill confines it.

Manufacturer explains that creep and stretch have been eliminated by the type of weave in the twill, the fabric being similar to that used in the top drawsheet and center blanket. The Korker blanket is the result of wartime use of synthetic rubber as a substitute for wool felt in press blankets. The sponsor company backed up the synthetic rubber blankets with twill and this led to tests which demonstrated suitability twill-covered cork for blanket purposes.

Tingue, Brown & Co. announces that preparations are being made to resume manufacture of wool felt blankets when the material becomes available in January 1946. A sustained demand for synthetic rubber product, however, is expected on the basis of reports by field representatives.

### Ace Portable Electric Blower

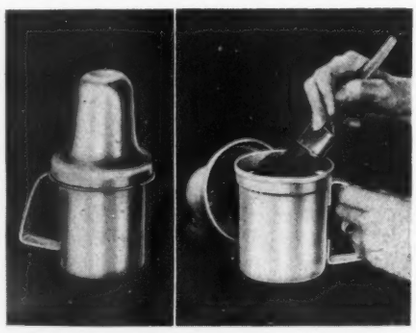
A DOUBLE duty 1 h.p. 2-speed portable electric blower has been announced by the Ace Co. (not Inc.). The Ace Blower is designed for cleaning machines, motors, switchboards, instruments and other light duty cleaning jobs, either through compressed air blast or by suction attachment.

The Model A double duty blower is provided with two speeds. The first or high is 48 in. water column pressure, 176 cu. ft. per min. The second or low speed is 36 in. water column pressure, 125 cu. ft. per min. The Model A weighs less than 14 lbs. Equipped with 20 ft. of heavy-duty 3-wire cord and insulated rubber nozzle. All Ace portable blowers are equipped with universal motors and can be supplied for any voltage from 100 to 275 v. Sealed ball bearings. Grounded housings. Suction and spray attachments available.

Further information, including an illustrated bulletin, is obtainable from the Ace Company direct, or through *Printing Equipment Engineer*.

### Aluminum Container for Glues and Padding Compounds

A CONTAINER for a wide range of shop uses has been announced by the Kindt-Collins Company. The container is constructed of heavy aluminum, built especially for shop service. A feature of the can is the inside crossbar support, which can be removed for



cleaning. This serves both as a wiping bar for surplus material on the brush and as a unit upon which to hang the brush when it is not in use. The cone-shaped top fits snugly over the can, covering both the brush and the contents to prevent hardening and evaporation. Manufacturer states the aluminum will not stain or discolor the contents of the can. Available in 1 and 2 qt. sizes for varying needs requiring glues, coatings, and the like.

### High Voltage Disconnect Switch

THE Simco High Voltage Disconnect Switch is used to automatically disconnect Simco static eliminating bars when the machine to which the bars are applied is stopped by the operator, and where static eliminating applicators on a group of machines are fed from one central high voltage power unit. It is intended for use especially with machines where the machine is stopped by a manually operated throw-off device.

The switch is enclosed in an iron case 6 in. by 4½ in. by 4 in.

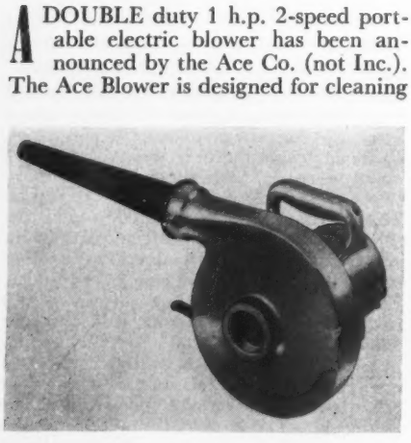
In the accompanying illustration, the switch box cover has been removed to expose the operating parts. The switch is in open position. The shaft *8* represents the throw-off shaft of the machine; *7* represents the fitting supplied by the customer to operate the switch. The throw-off shaft *8* has been pulled to the right and the spring *5* has pulled the bakelite operating rod *4* to the right, which in turn has revolved the short arm of the switch blade *2* to the right. The long arm of the blade *2* has opened and struck the cover of the box (not shown) to ground the blade of the switch.

The bakelite operating shaft *4* moves back and forth (lengthwise) through porcelain bushings *6*. When the throw-off shaft moves to the left, spring *5* pushes and pulls the bakelite shaft to the left until the switch blade *2* makes contact with post *3* at which time the switch is closed. The spring *5* takes up any overtravel of the throw-off mechanism. After the switch is completely closed or open the overtravel of the throw-off mechanism will simply stretch or compress and bend the spring, giving the switch a more positive contact.

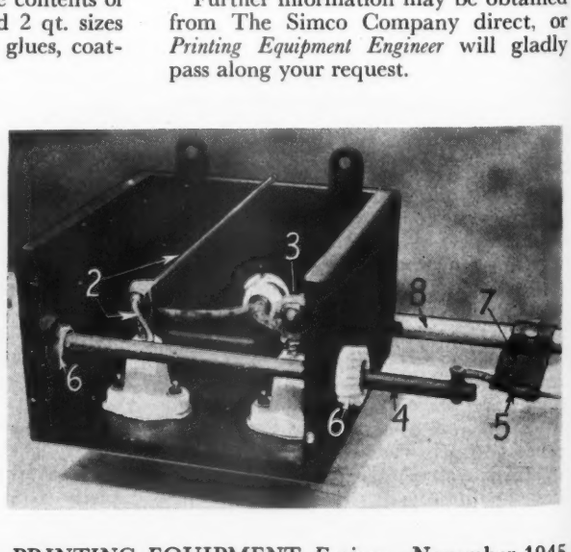
The high voltage cables are brought in through a porcelain bushing in the back of the box and are fastened back of brass knurled nut terminals, as shown in the illustration. One terminal (the live one) is metallically connected to the post of the switch. The other, which is connected to the blade, feeds the static eliminating applicator.

This switch may also be arranged to operate from a solenoid. In the case of printing presses, the solenoid is operated by the pushbutton stations which operate the electrical motor of the press.

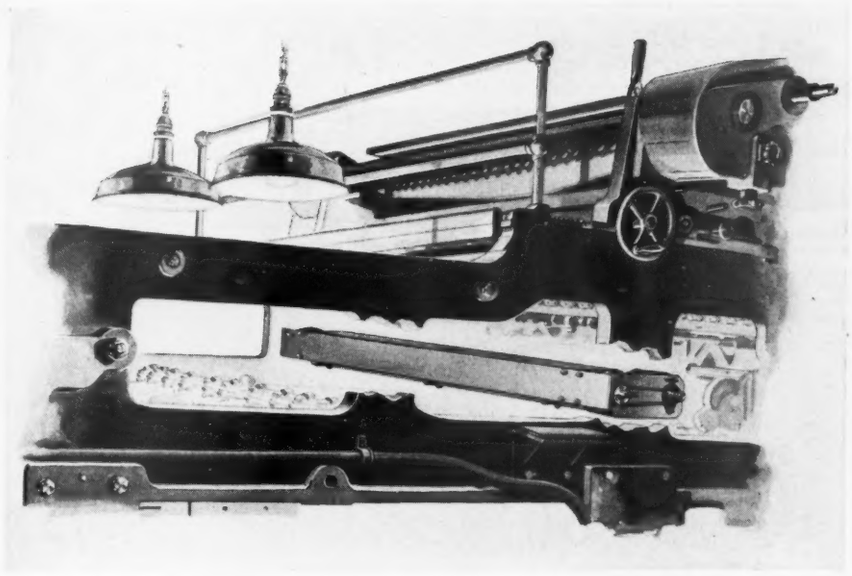
Further information may be obtained from The Simco Company direct, or *Printing Equipment Engineer* will gladly pass along your request.



**View of Ace Double Duty 1 h.p. 2-speed portable electric blower for cleaning duty —either by air blast or suction.**




**View of Simco High Voltage Disconnect Switch with cover removed from enclosing case. Switch automatically disconnects static eliminating bars when the machine is stopped. Intended for use where machine is stopped by manually operated throw-off device.**



**This sectional drawing of a press delivery shows the Oxy-Dry Anti-Offset Dry Sprayer which deposits dry powder upon freshly printed sheets. An electronic tube atomizes the powder and spreads it evenly on the sheet.**

### Anti-Offset Dry Sprayer

OXY-DRY SPRAYER CORP. is offering an anti-offset dry sprayer which uses an edible powder of particular formation. The powder is electrically deposited upon freshly printed sheets in the press delivery. This sprayer has a fountain-like or V-shaped container extending across the entire press width. The lower section of a revolving metal cylinder protrudes through a slot in the bottom of the trough. The trough is filled with a mixture of edible anti-offset powders which are kept in a state of agitation by the rotating cylinder.

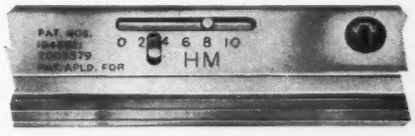
Directly below the cylinder is an electronic tube. Coinciding with the operation of the press, the cylinder revolves, carrying with it some of the powder which, released from the cylinder during its revolution, scatters near the electronic tube, when it is atomized and spread evenly over the printed sheet. In addition to atomizing the powders, the tube forms ozone, which exerts an oxidizing effect upon the wet ink.

Small amounts of the powder are said to form an even spacer between the sheets, and ionization of the powder neutralizes static. One filling of the unit is said to last usually for 24 hours' running time. Oxy-Dry can be installed on every type of web or sheet-fed letterpress or offset press.

### Indicator Feature Added to Challenge Quoin

CHALLENGE MACHINERY CO. announces that one of the first of the promised improvements in its postwar composing room equipment is the improved, more readable register reference indicator of the Challenge Hi-Speed Quoin, Style HM shown in the accompanying illustration. By means of this quoin it is possible to relock the form to accurate register.

As the quoin is expanded with the key, a steel indicator pin moves along in a slot with numerals on the top face of the quoin to indicate the number of points the quoin has been expanded. Before unlocking, the operator notes the number under the indicator pin and accurate register can be obtained in relocking—not by guess and judgment—but by




**Through an indicator pin working in a graduated slot on the top surface of the Challenge Improved Hi-Speed Quoin it is possible to obtain accurate register when relocking the form.**

turning the key until the indicator pin moves to the same number.

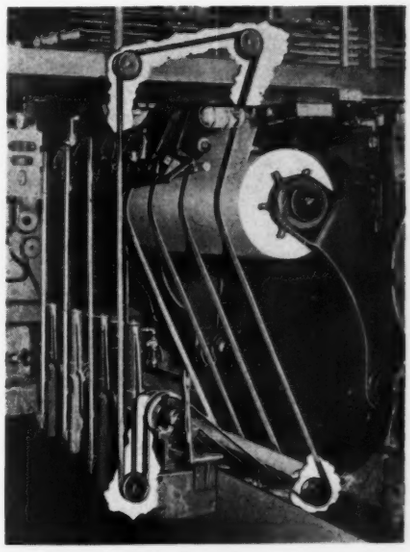
Challenge Style HM Hi-Speed Quoins are made of steel and are rust-proof plated. Each Quoin is a self-contained unit—ready for instant use. Manufacturer states the expansion is direct and powerful, allowing no chance for work-ups, slippage or damage to type, leads or slugs. Made in six sizes: 4½ in., 6 in., 7¼ in., 9 in., 10½ in. and 12 in.

### Running Belt Tension for Rotary Printing Presses

A NEW mechanism for automatically applying pneumatic pressure through a running belt system to paper rolls on rotary printing presses has been announced by Wood Newspaper Machinery Corporation. This Running Belt Tension is applicable wherever paper is fed at high speed from rolls in magazine and newspaper printing presses and also in paper mill operation, packaging, wallpaper, wrapper and label work. According to Oscar C. Roesen, president of Wood, a set of parallel continuous belts, driven by the press and running with the roll, maintains a uniform web tension, irrespective of variations in press speed, size and position of the roll, or other changing factors.

At the start of each press run the desired tension of the belts against the roll is pre-selected and set manually. During the run the tension can be adjusted by remote control. After the tension has been set, the action of the mechanism is fully automatic. Air pressure, controlled by a floating roller, responds instantly to correct any tendency toward change in tension.

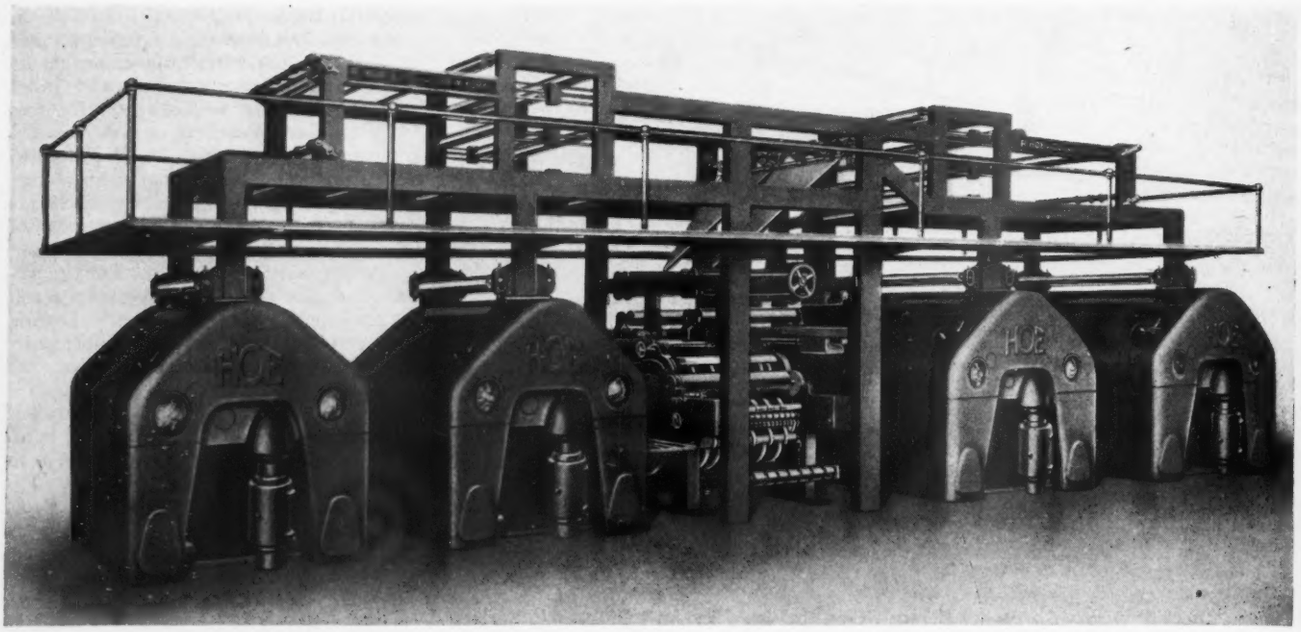
Manufacturer states the Wood Running-Belt Tension protects paper stock by maintaining the correct tension at all speeds with minimum friction and thus prevents injury to the surface of the web. It also eliminates slackness or buckles in the web which would be the cause of misregister. It may be installed on all Wood reels. Manufacturer also claims that when used in conjunction with Wood Autopasters it constitutes a method of achieving flying splices for high-



**View of Wood Running Belt Tension for rotary printing presses. Press framework has been broken away to show mounting of the endless belts. The four parallel continuous belts are driven by the press and run with the paper roll to maintain uniform web tension. After the tension has been pre-selected and set manually the action is automatic. During the press run, however, the tension can be adjusted by remote control if desirable.**

speed continuous output. In case of a web break, the red button stop on the press automatically converts the Running Belt device into a powerful braking action.

Full details and illustrated brochure may be obtained from Wood Newspaper Machinery Corporation, direct, or in care of *Printing Equipment Engineer*.



View of Hoe's Color-Convertible Newspaper Press. The press may be purchased for black printing only, and as the need arises, color printing facilities may be added. Other major improvements have been incorporated in the design of the press. The press unit enclosures, states manufacturer, permit quick accessibility.

### Hoe's Color-Convertible Newspaper Printing Press

R. HOE & CO. has announced a new newspaper printing press. The distinguishing characteristic of this press, in addition to detailed mechanical improvements, is that it may be purchased as a standard black-unit press and later on, when the need is apparent, color printing equipment may be added to the press according to the newly developed color printing needs. Arthur Dressel, Vice President of R. Hoe & Co. states "the press is engineered to provide extra colors where and when they are wanted."

The standard black units of the Color-Convertible Press are arranged for the addition of color cylinders without changing cylinder caps, guards, or gearing. Reversing mechanisms may be added to the cylinder gear assembly to reverse one couple, or in the main drive housing as well, to make the entire unit reversible.

The design of the black units is such as to allow application of an extra color plate cylinder against either impression cylinder, to receive compensating mechanisms, and to reverse the ink pump drive. An innovation in the ink pump drive connection functions to silence or reverse any pump by a quick adjustment.

Thus, by equipping one of a group of units with cylinder reversing means and an extra color cylinder, a web may have as many as four printings on one side and one printing on the other without sacrificing that unit's convertibility back to regular black printing.

"A further color printing potential," Mr. Dressel went on to explain, "is that ink pump boxes are readily removable to permit substitution of spare boxes reserved for color to afford portability without sacrifice of normal distribution. Also, at any time the units may be equipped with dual ink rails having a pump box at one end for black ink and another at the opposite end available for color. Oil-tight housings at both ends of the unit are designed to accommodate ink pump drives."

With ink apportioned volumetrically in keeping with every press speed, fed to the first ink drum in a protracted flow and spread to an even film by the rail lip, Hoe claims a sustained and uniform ink course to the printing plates with a continuous supply of fresh unoxidized ink. Finger-tip control is continued in the pump box for regulating the ink density in any column of any page without affecting neighboring columns. The control is also used for shutting off ink to any entire page by pushing a knob for fractional roll runs.

Incorporated in the company's announcement is the information that the Hoe Super-Production Folder has been streamlined in design and several new features have been added.

Each folding mechanism in a double folder is independently driven through separate vertical shafts in which are incorporated clutches to silence either one. The clutches have been supplied with shear-pin members the same as are used in press unit drives. Folding blade assemblies are mounted in arms in such a way that the adjustment of one blade automatically sets the other blade in like manner.

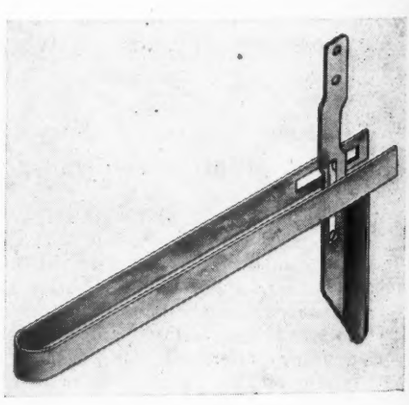
To equalize the fold of all products at all operating speeds while the press is running, there are individual means for adjusting the folding cylinder pin cam as well as the relationship of the folding cylinder and folding roller assembly to the cutting cylinder knives.

An improved high speed transverse collect arrangement and forced-feed lubrication of the folder drive within oil-tight casings have been provided.

The postwar Hoe Reel, Tension and Full-Speed Web Splicing mechanism will have an automatic auxiliary spindle brake tension, and a push button-operated web splice. With this new auxiliary tension, the transition from belt to spindle tension, preliminary to a splice, is made automatically and with no change in web tension. Hoe considers its entire reel and tension mechanism an especially important adjunct to the color printing facilities of the new press unit since correct and continuously uniform tension is necessary to good multi-color registration.

### Towne Automatic Line Stop for Linotypes and Intertypes

TOWNE & HESS have announced development of an automatic line stop for application to Intertype and Linotypes. The device consists of two parts, (first elevator line stop and transfer slide finger) both of which have been modified in design to accomplish the automatic positioning of the line stop to zero picas in the first elevator head after each matrix line has been transferred to the second elevator. In this way, the



operator can forget about pushing the line stop to the right when changing from long to short measures, and in turn avoid the falling of matrices on the floor during the rise of the first elevator to transfer position.

The Towne transfer finger consists of a single piece of steel with the operating section bent at right angles to the finger proper as shown in the illustration. Mounted on the finger is a spring pawl, one end of which projects through a slot at the back. The line stop proper is slotted at its rear right side. The curved end of the spring pawl mounted on the transfer finger operates within the slot in the line stop. When a matrix line is transferred to the second elevator the spring pawl projecting backwardly from the finger pulls the line stop with it. When the transfer levers retreat to permit the second elevator to rise with the matrix line, the spring pawl working in the slot of the line stop also causes the line stop to retreat to the left. The first elevator now descends to normal position with the line stop in proper place to guard the matrices at the left end of the next matrix line irrespective of its measure.

Further information may be secured from Towne & Hess direct or in care of *Printing Equipment Engineer*.

### Electro-Matic Infra-Red Burn-in Oven for Photo-Engravers

ELECTRO - MATIC ENGRAVING COMPANY has announced development of the Electro-Matic Infra-Red Burn-in Oven for burning-in hot top enamel on photo-engraving plates. As will be seen by referring to the illustration, the oven is enclosed in a metal frame insulated with Johns-Manville marinite. The cabinet is supported at suitable operating height by four legs. Below the heated compartment is a ventilated metal shelf upon which the plate can be placed for cooling.

The Electro-Matic Oven is designed to accommodate plates up to 16 in. by 22 in. Mounted in the upper and lower surfaces of the oven are 24 infra-red lamps (375 w. each), 12 lamps above and 12 lamps below to provide uniform burning-in heat. Since the plate to be burned-in is placed between the upper and lower banks of lamps, manufacturer states uniform burning-in heat is provided. The infra-red lamps will last approx. 5000 hrs.

Manufacturer also states: "One of the most important features of the Electro-Matic oven is the infra-red lamp reflectors. Gold is the most efficient medium for infra-red radiant energy. The reflecting surfaces of the Electro-Matic ovens are gold, plated over copper and nickel to prevent loss of energy by retaining all rays within the oven.

Operation of the oven is automatic. The plate is placed in the oven and an automatic timing switch is turned on. When the proper time interval has elapsed (approx. 5½ min.) the automatic switch turns off the lamps.

The oven is available for either a.c. or d.c. current. Machine weighs 200 lbs. crated for shipping. Overall dimensions of the oven are 54½ in. high, 29 in. deep and 24 in. wide.

The Electro-Matic Infra-Red Burn-in Oven is distributed by General Plate Makers Supply Co., from whom further information may be obtained, or *Printing Equipment Engineer* will be glad to transmit your request.

**Electro-Matic Infra-Red Burn-In Oven for Photo-Engravers. Automatic in action. Twenty-four lamps (12 above and 12 below) states manufacturer, insure even burning-in heat from both sides of the plate.**

## Illinois Newspaper Mechanical Conference

**Here are the three principal officers of the Illinois Newspaper Mechanical Conference. Left to right, they are: Secretary-Treasurer, Howard Colton, press-stereo superintendent, Bloomington *Pantagraph;* President, Clarence R. Snethen, mechanical superintendent, Waukegan *News-Sun;* Vice President, A. M. Massengale, Peoria Newspapers, Inc.**

THE annual meeting of the Illinois Newspaper Mechanical Conference was held in DeKalb, Ill., on October 6 and 7. One hundred and twenty-five delegates from fifty-five Illinois dailies were present.

The meeting was reported one of the best in the history of the organization. Newspaper color printing was discussed at great length in all the various departmental clinics.

The following officers were elected for the coming year: President, Clarence R. Snethen, Waukegan, (Ill.) *News-Sun*, Vice President, Alex Massingale, Peoria Newspapers, Inc., Peoria, Ill. Secretary-Treasurer, Howard Colton, Bloomington, Ill., *Pantagraph*, was re-elected.

The following executives were elected to the board of directors: Wilbur Augspurger, Peoria, Cliff Entler, Decatur; Otto Kurrie, Moline; Don Shelley, East St. Louis, and Edward Raymond, DeKabl.

Waukegan was selected as conference city for 1946 with the *News-Sun* as the host newspaper.

### Discontinues Dry Mat Manufacture

The Morley Company, through its president, Eugene B. Whittemore, announced on October 1 that it will discontinue the manufacture of stereotype dry mats. In order that Morley customers may have time to find a new supplier, before stoppage of shipments, a 30 day inventory has been set aside for regular customers.

In explaining the discontinuance of dry mat manufacture, the Morley Company explained that it manufactures a variety of other products. A point has been reached where the future expansion of those products is restricted by the company's paper mill capacity. Expansion of the paper mill facilities is inadvisable at the present location.

It is stated, however, that the company will continue to operate the M & M Supply Co of Chicago, which is a jobber in stereotype supplies.

# EXECUTIVE Qs

Leslie J. Griner, mechanical superintendent of the Chicago *Sun*, has taken a new position with the Fort Wayne (Ind.) *News-Sentinel* of which Miss Helene Foellinger is the publisher. Mr. Griner will be assistant to the publisher. Mr. Griner has been a member of the ANPA

**Leslie J. Griner, is now Assistant to the Publisher of the Ft. Wayne (Ind.) *News-Sentinel*.**

Mechanical Committee for several years. His services to the committee have been outstanding from a technical standpoint. For some time, Mr. Griner was mechanical superintendent of the Youngstown (O.) *Vindicator*, he leaving that position to accept the superintendency of the Chicago *Sun* in April 1944.

Frank A. Kopp has been appointed sales representative of The Goss Printing Press Company with headquarters in the company's New York offices in the New York *Daily News* building. According to Goss's sales manager, C. S. Reilly, Mr. Kopp has had considerable experience in the printing industry as he has been employed for the past ten years by the Wood Newspaper Machinery Corporation traveling through the East. He was born in Hoboken and now makes his home in Ridgefield, New Jersey.

**Goss's new sales representative with New York, N. Y., headquarters is Frank A. Kopp.**

Arthur Dressel, Vice President and General Sales Manager of R. Hoe & Co., Inc., has announced the appointment of Major John Sweeney as the Company's representative in its southeastern territory. Major Sweeney was associated with the mechanical staffs of several large metropolitan newspapers for 13 years before returning to active duty with the Army in the summer of 1940. He is an alumnus of Brooklyn Technical High School, Cooper Union Engineering School, New York University, the Coast Artillery School, the Anti-Aircraft Artillery School, and the School of the British Royal Artillery. He served overseas for two years and during the summer of 1943 was assigned to the British Royal Artillery in Dover as American observer, experiencing long-range artillery duels and bombing raids nightly. He accompanied

**Arthur Dressel announces that Major John Sweeney has been appointed Hoe's representative in S. E. territory.**

British Commandos in raids on the French coast prior to the invasion and was injured shortly after D-day. Upon being relieved from active duty he received a letter of commendation from General Devers, chief of the Army ground forces. In making this announcement Mr. Dressel stated that the territory assigned to Major Sweeney includes the States of North Carolina, South Carolina, West Virginia, Alabama, Georgia, Florida and eastern sections of Kentucky and Tennessee.

Robert A. Ritter, Production Planning Assistant to U. S. Public Printer A. E. Giegengack, was given a farewell dinner on October 12 at Hotel Statler, Washington, D. C., on the eve of his resignation to enter his own business as a consultant to management. The committee arranging the affair was headed by Raleigh Christie. About 125 officials and employees of the Government Printing Office attended and there was a liberal sprinkling of representatives from other Government Departments and from the publication offices of the Army, Navy, and Selective Service System. John J. Deviny, Deputy Public Printer, acted as toastmaster. A. E. Giegengack, Public Printer of the United States, gave an account of Mr. Ritter's accomplishments during his tenure at the Government Printing Office. There were addresses by Russell H. Herrell, G.P.O. executive officer, and by other officials. Members of the G.P.O. staff enacted several brief sketches featuring the lighter side of the wartime scene at Uncle Sam's big printing office.

Capt. Alden T. Mann, vice president in charge of domestic sales of Intertype Corporation, has been elected a member of the board of directors. Captain Mann

**A. T. Mann, jr. has been elected a director of Intertype Corporation.**

joined Intertype in 1926 as assistant to the president and was promoted to the office of vice president in 1929.

Christian Paulson, chief engineer and director of New Era Manufacturing Co. of Paterson, N. J., died suddenly October 29. He had been associated with the company for 37 years. He was 68 years old and resided at Fairlawn, N. J.

The Miehle Printing Press & Manufacturing Co. has announced that Wilbur L. Leonard is now located in the company's New York (N.Y.) sales office at 330 W. 42nd St. Since 1930. Mr. Leonard represented The Miehle Company in a sales capacity in eastern Pennsylvania, western New York and part of West Virginia, with headquarters at Buffalo. He has been associated with Miehle's sales department since 1924 when he covered Delaware and Maryland and parts of Pennsylvania and New Jersey. In this new assignment, Mr. Leonard will represent the company in western New York, Long Island and parts of New York.

**Miehle announces Wilbur L. Leonard is associated with its New York offices.**

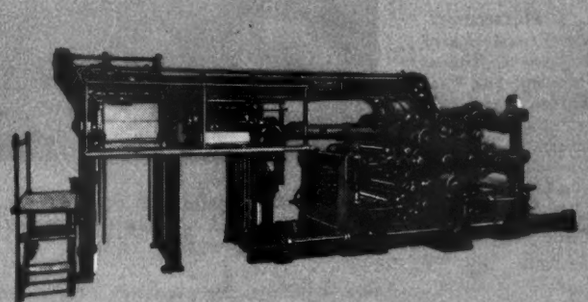
# COTTRELL

## CELEBRITY

**sheet-fed**

**rotary presses . . .**

Companion two-color and five-color presses
in four standard sizes to meet the mounting demand
for quality color printing by letterpress.



**C. B. COTTRELL & SONS, CO.**

**WESTERLY, RHODE ISLAND**

New York: 25 East 26th St. • Chicago Daily News Bldg., 400 West Madison St. • Claybourn Division, 3713 North Humboldt Ave., Milwaukee, Wis. • Smyth-Horne, Ltd., Chipstead, Surrey, England

Norman Steed is now located in the New York (N.Y.) sales office of the Miehle Printing Press & Mfg. Co., at 330 West 42nd St. Mr. Steed has been a member of the Miehle sales force for 20 years. For the past 10 years he has resided in Boston, and called on printers,

Norman Steed is now located at Miehle's New York office.

publishers, and carton manufacturers in the New England States. Previously, he worked both in the mid-west and the east. In this new territorial arrangement, Mr. Steed will represent the Miehle Company in New York, N. Y.; Connecticut and the Hudson river valley.

Paul B. Slawter, jr., has become associated with the House of J. Hayden Twiss, advertising, 205 E. 42nd St., New York. He is now copy chief and account executive for that firm. He will assist also in the preparation of copy for accounts in the printing and allied industries. Before his new connection he was associated with *Chemical Industries Magazine*. as director of research and promotion Mr. Slawter returned in June of this year after a 2½ year absence during

Paul B. Slawter, jr. has a new position — he is copy chief and account executive for J. Hayden Twiss, New York advertising firm.

which time he served as an Eight Air Force navigator in the ETO. His decorations include the Distinguished Flying Cross, the Air Medal with four Oak Leaf Clusters, and a Presidential Unit Citation. He attended Alfred University's College of Ceramic Engineering and NYU. He is a member of the Chemists' club and the Salesmen's association of ACI.

Charles Lawrence, who has been in the armed services for some time, has been released and is again a civilian. He has resumed his position as a representative of the Linotype Parts Co., and started on November 1 to work out of the Kansas City office for that company. His territory is the same as formerly.

A number of changes have been made in the executive personnel of the Mid-Western territory of the Geo. H. Morrill Co. Div. of General Printing Ink Corp. The changes became effective as of November 1 and are as follows: Charles D. Adkins, formerly district manager in Chicago, has been appointed mid-western manager with supervision over the operation of the Chicago, Minneap-

Chas. D. Adkins has been appointed Mid-Western Sales Manager of the Geo. H. Morrill Co. Div. of General Printing Ink Corp.

olis, Detroit, St. Louis and Ft. Worth (Tex.) branches. R. H. Westling, formerly manager in Los Angeles, has been appointed Chicago district sales manager. E. C. Stone has been appointed district sales manager in Minneapolis. L. R. Antrim, formerly branch manager in Detroit, is now Detroit district sales manager. Formerly St. Louis branch manager, E. A. Roles has been appointed St. Louis district sales manager. A. G. Caffer, who was Ft. Wortl (Tex.) branch manager, is now Ft. Worth district sales manager.

Union Printing Ink Company, Akron, announced in October the association of L. J. McDermott and R. J. McEachen with its organization. McDermott will serve as vice president and treasurer of the firm and McEachen will supervise production and technical work. Both men were formerly with the E. J. Kelly Company. McDermott joined Kelly in 1934, after being graduated from Xavier

L. J. McDermott, VicePresident and Treasurer, Union Printing Ink Co., Akron, Ohio.

University, Cincinnati. He served the firm as a salesman, co-sales manager and vice president before that company became a subsidiary of General Printing Ink Corporation. McDermott represented the Kelly Company in Ohio, Indiana, Kentucky and West Virginia. McEachen was graduated from Notre Dame University with a B.S. in Chemical Engineering and became affiliated with the E. J. Kelly Company in 1935 as a chemist. He was later made superintendent and then technical director of the firm.

A program of expansion is planned by the Akron printing ink firm.

Edgar L. Newhouse, jr., president of Federated Metals Division, American Smelting and Refining Co., recently announced the appointment of Max Robbins as general manager of Federated with headquarters at 120 Broadway, New York, N. Y. Mr. Robbins has been

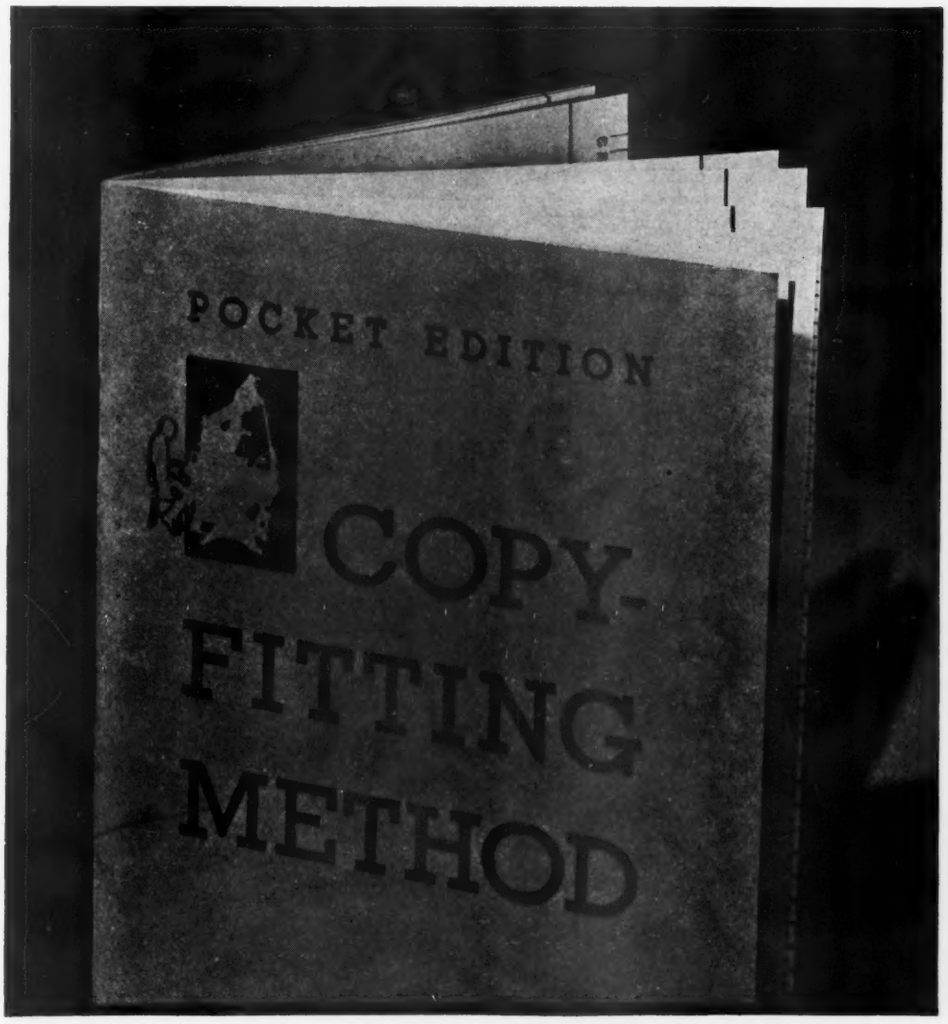
Max Robbins, Federated Metals' new general manager.

associated with Federated since 1936. During that time he was manager of the Federated Chicago plant, manager at Whiting, Ind., and subsequently, general manager of the company's midwestern department consisting of the Whiting, St. Louis, Detroit, and Pittsburgh branches.

A two-man idea committee of the E. P. Lawson Co., New York, recently completed a tour of important industrial manufacturing centers on the Eastern seaboard in search of new ideas in design to be incorporated in the new Law-

Fred Seybold (left) and Frank Cade, of E. P. Lawson Co. take trip to secure ideas for equipment.

son paper cutting machine. The two men are Fred W. Seybold, chief engineer and Frank Cade, maintenance engineer. They intend to continue the tour throughout the major printing and bindery centers of the United States to gather added information.




# *Your Copy Is Ready Now*

The new Pocket Edition of Linotype's useful Copy-Fitting booklet is ready now and available for the asking. Its alphabet length data has been extended to incorporate additional point sizes of popular faces and is complete. Ask your Linotype Production Engineer or your Linotype Agency for your copy. There is no obligation.

TRADE LINOTYPE MARK

LINOTYPE: Brooklyn 5, N. Y. Agencies: New York City 18, 500 Fifth Avenue; Chicago 5, 531 Plymouth Court; New Orleans 9, 549 Baronne Street; San Francisco 11, 638 Sacramento Street; Los Angeles 15, 1515 Georgia Street. *Office New England Manager,* Boston 16, Park Square Bldg. Canadian Linotype, Limited, 119 Adelaide Street W, Toronto 1. *Representatives in all Principal Cities.*

*Linotype Electra Bold, Electra and Bodoni Italic*

William S. Wilson, president of New York Printing Pressman's Union No. 51, recently resigned to join the O. J. Maigne Company, New York, manufacturers of printers' rollers, and a member of Continental Industries, Inc. He has been named assistant to President T. A. Hession. Mr. Wilson served seven successive terms as president of Local No 51, and four terms as vice president He

**Wm. S. Wilson has been made Assistant to President of O. J. Maigne Co., New York roller manufacturer.**

was designated by former Governor Herbert Lehman to serve on a committee to investigate the sit-down strike situation in Detroit, and during the NRA served as labor representative for the printing industry. He has been a labor panel member of the American Arbitration and the New York Regional War Labor Board. Born in Brooklyn, Mr. Wilson started work in a printing plant when he was 13, and joined New York Press Assistants' Union No. 23 when he was 18. He served 27 months overseas during World War I. He is a resident of Oceanside, L. I., and has served as a member of the Board of Education there.

D. Gerald Cloud of the Pacific coast agency of the Linotype organization went to Alaska in 1916 from Lynden, Wash., where he held down jobs with the Daily *Alaskan* in Skagway and the *Dispatch* in Juneau. During World War I

**D. Gerald Cloud has become a member of Linotype's San Francisco agency.**

he served with the Marines, and from 1920 to 1926 worked again for the Montesano *Vidette*. He published the Elma (Wash.) *Chronicle* from 1926 to 1928, and then for ten years was superintendent of the University Publishing Co. in Seattle. In his spare time he attended the University of Washington and is a graduate of its school of business administration. Just before joining the Linotype organization he was president and manager of the Pacific Typesetting Company of Seattle.

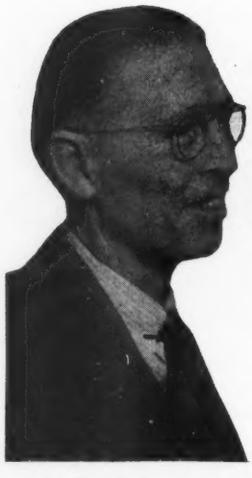
W. Floyd Maxwell, formerly secretary of LNA, was appointed to the newly created position of executive director and Edward D. Norris becomes secretary of the Lithographers National Association. Mr. Morris who joined the Association staff in August 1943, after 15 years' experience in the industry, will take over a considerable portion of the work for which Mr. Maxwell was previously responsible. Thomas M. Flavell who joined the staff of the Lithographers National Association in July 1942 as industrial relations director, resigned September 15 to accept the position of General Sales Manager with the Kohl & Madden Ink Corporation of New York and Chicago. No successor to Mr. Flavell has been named as yet.

Capt. Frank F. Wiggins, who was foreman of the *Coos Bay Times*, Marshfield, Ore., before entering the Army Air Corps, in 1942, has joined the Linotype organization as a production engineer and is working out of the company's San Francisco office. He started his printing career more than 25 years ago with the Cando (N. D.) *Report* and then worked for the *Herald* in the same town. Later he followed the trade in

**Frank F. Wiggins has joined Linotype's San Francisco office as a production engineer.**

Fargo, N. D., and in Huntington and Fort Wayne, Ind., before moving to Marshfield, Ore. In the Air Corps he flew more than 2000 hours, 1500 of them as an instrument instructor. He was overseas in the Asiatic-Pacific area 13 months.

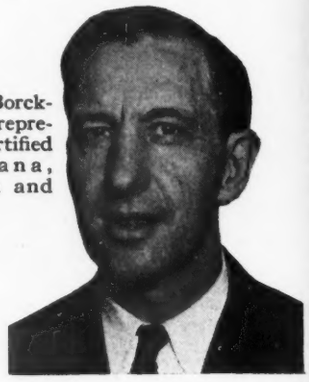
Certified Dry Mat Corporation has announced the appointment of George W. Kennell as its representative in the southwest territory comprising the states of Arizona, Colorado. New Mexico, Oklahoma, Texas, Utah and Wyoming. Previously, Mr. Kennell represented. Certified in the central-eastern territory. He has been associated with Certified



**Geo. W. Kennell, who has represented Certified for many years, now has new territory in west and southwest.**

since 1928. In 1929, while foreman, he installed the stereotype plant for the Akron (O.) *Press*. In 1910 he became associated with the Louisville (Ky.) *Herald*, and was one of the first to use dry mats exclusively. From 1916 to 1928, he was in charge of the stereotype department of the Cleveland *Plain Dealer*. While at the *Plain Dealer*, his success in conditioning dry mats attracted the attention of the late George A. Kubler, then president of Certified. Ensuing negotiations resulted in his present connection with the Certified staff. Mr. Kennell possesses fine technical qualifications. He is a member of the I.S.&E.U.

Certified Dry Mat Corporation has announced the appointment of Carl R. Borckardt as its representative in the states of Indiana, Michigan and Ohio. He succeeds George W. Kennel, who has taken a new territory in the West and



**Carl R. Borckardt now represents Certified in Indiana, Michigan and Ohio.**

Southwest. Mr. Borckardt has worked on the Toledo (O.) *Blade*, the Cleveland *Times*, the Cleveland *Press*, and for a number of years has been with the Cleveland *Shopping News*. At the time of leaving the latter place he was superintendent of the stereotype department.

Lewis E. Price, states Certified Dry Mat Corporation, has been appointed that company's representative in the states of Kentucky, Virginia and West Virginia. He has worked on the Lynchburg (Va.) *News*, the Richmond (Va.)

**Lewis E. Price, former stereotype executive, represents Certified in Kentucky, Virginia and West Virginia.**

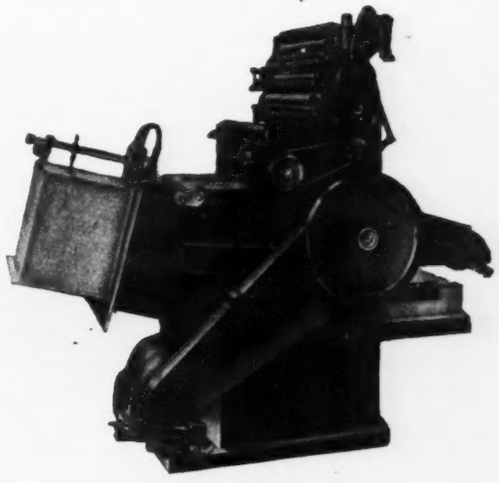
*News Leader*, the Louisville (Ky.) *Courier Journal*, and the Miami (Fla.) *Herald*, where he was employed until he joined the field staff in 1940. He is a member of the IS&EU and served as president of the Miami stereotypers' local union.

**H.** G. Roebuck, Baltimore, Md., had been a letterpress printer for 61 years, when he installed his first ATF Chief offset press. That was five years ago. He writes: *"We are able to give our customers a more complete and thorough service; figure their jobs both ways; or combine offset and letterpress in the same job to good advantage."*

ATF Chiefs are especially designed so they can be understood and operated by letterpress printers who want to offer their customers the advantages of both processes.

ATF Chiefs and ATF Kellys make an ideal team for the modern printer. When civilian needs can again be met, ATF will have everything for an offset department from darkroom to pressroom. Right now, any ATF press can be reserved for future delivery. Ask the man who represents ATF for a copy of "Offset Answers," and to tell you all about the ATF Civilian Priority Delivery Plan, or write to us direct.

ATF CHIEFS
are made in three sizes:
14x20; 17x22; 22x29



ATF

**American Type Founders**

200 ELMORA AVENUE, ELIZABETH B, NEW JERSEY

*We are cooperating with the Committee for Economic Development. There are C.E.D. local committees in 2800 counties and communities. Consult the nearest one now, for help in speeding reconversion and providing maximum employment.*

**This picture was taken at a luncheon at the time of the convention of the Printing Industry of America, held in Pittsburgh during the early part of October. Left to right are: Arthur Rippl, president of Printing Industry of Pittsburgh; Augustus E. Giegengack, Public Printer of the United States; James F. Newcomb, New York, new president of P. I. A., and James L. Cockrell, Tulsa, former chairman of the Management Committee.**

# *Giegengack peeps into future with respect to technology of the Graphic Arts Industries*

**By HON. A. E. GIEGENGACK***

**United States Public Printer, Government Printing Office, Washington, D. C. Abstract of address delivered before Printing Industry of America Conference, Pittsburgh, October 1945.*

THE first equipment to appear on the postwar market will be of prewar design. It will have some minor improvements, of course, but radical changes must await the research and testing which an all-out war has delayed. In the first World War, while plants and manpower worked at war contracts, the research staff devoted itself to the development of new peacetime machinery. The present war has kept the laboratory almost as busy on war products as the production department. I do not mean to infer that all research must begin from scratch. The war has brought many developments which only await adaptation and application to printing equipment.

While our supply industries have not been working on printing equipment, they have been using improved methods in their war work similar to those which they will use when they reconvert. The important experience they have gained will be evident in the first postwar models. Speeds will be advanced somewhat but a larger gain will be made by increasing the efficiency of normal operation. That is, the number of correct sheets in the delivery of the press at the end of a day's run will exceed prewar performance, even though the rated operating speed of the press has not materially advanced.

The electric eye will come into wider use in controlling feeding, register, and delivery. It will also be used on other equipment where the production moves through a sequence of operations. Gravure and high-speed rotaries probably will adopt this means of register control and will thereby offer greater possibilities than heretofore.

Do the present conventional typesetting methods fulfill our requirements in quality that these comparatively new and growing processes demand? Probably not. What, therefore, may be the answer toward greater excellence in typesetting, particularly with emphasis on clarity of reproduction? Probably one notable answer may be a new method of photo-composition. Without question a perfected camera—typesetting or photo-composition machine will be on the market before long. It also seems probable that photo-composition will provide a clarity of print surpassing anything yet produced in this way.

Photo-composing, with its quality of clarity in printing, would provide one of the essential requirements in offset printing and rotogravure. Furthermore, a font of matrices, or whatever serves as such, through changes in camera focus would probably be used to reproduce five, six, or seven different type sizes, which in itself would eliminate duplication of a font of mats for each type size used.

Growing economy in typesetting plus vastly improved printing quality would constitute a development of major importance and would certainly fit into the ever-growing scheme of rotogravure and offset.

I look for a much wider development and use of plastic plates. We have carried them to a high stage of development in the GPO, and it is reasonable to expect much wider commercial usage. Incidentally, I believe we have indirectly laid the groundwork in South America for plastic platemakers to go in and capitalize on the foundation we have laid.

Color printing is going to be greatly expanded, both as a result of demand for it and because of improved cameras, faster film, and more efficient emulsions. These and other developments will bring the multi-color printed piece within the budget allotments of many printing programs.

Very few of the equipment manufacturers have brought their research and development to that stage of perfection where they are ready for announcement. I am not at liberty to reveal some of these developments which I have learned are in the making. Naturally, manufacturers, designers, and engineers are guarding trade secrets until they are ready to market their models. While a few may be considered revolutionary, most are merely over-all improvements in existing designs and methods. One of our own GPO officials, for example, has constructed a very ingenious device which will undoubtedly have an important effect on the preparation of copy for offset. We are working to get it patented for him and are not ready to publicize it at this time.

Like other plants, the GPO will be in the market for replacement equipment. We want to keep our plant as modern as any, but, as I have said, we do not expect to expand.

The removal of practically all WPB limitations on paper does not mean that we shall have all the paper we want for some time. Some experts predict a two-year period before paper conditions become normal. I am inclined to be more optimistic. Such forecasts fail to take into account the ingenuity and ability of our manufacturing and marketing leaders.

Our own pulp and paper mills will be back on normal schedules much sooner, I believe, than the forecasters are predicting. That goes, also, for other supplies which are now scarce.

The Army and Navy will reduce their purchases of paper, though officials of these departments are still in the market. I can say definitely that GPO's needs will be somewhat reduced and that we will, to some extent at least, be able to draw on the necessarily large inventory we had to maintain during the war.

Printers can look for improved quality of paper. The mill laboratories have not been idle. Stocks will be produced which will have better printing surface, finer coating material, greater tensile strength, more attractive finishes. An inexpensive

*(Continued on Page 44)*

# COLOR

*Marches ahead!*

**The dawn of peace now ushers in an era of better living with the expanding application of color regaining its stride.**

**Wise publishers are arranging to have the most color-versatile printing equipment available as soon as possible—to be prepared for an ever increasing demand for color advertising.**

**Post-war newspaper printing, with or without color, will reach new heights of quality and quantity production with the new Hoe Streamline Color-Convertible Newspaper Press. For this is a press incorporating important fundamental advancements in design and performance, yet retaining all those fine qualities which have always earned for Hoe presses the preferential regard of publishers, mechanical executives, and pressmen.**

*Introducing*

# THE NEW HOE

*Color*

# *Convertible* NEWSPAPER PRESS

## PRE-ENGINEERED TO PROVIDE EXTRA COLORS *WHERE* AND *WHEN* YOU WANT THEM

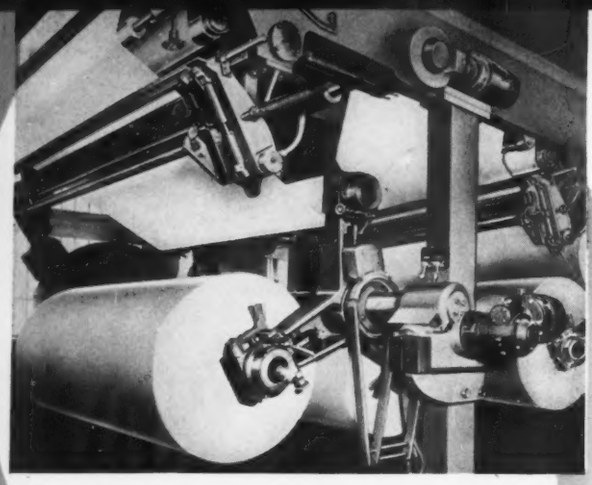
Standard black units are arranged for the addition of color cylinders in a very simple manner without changing cylinder caps, guards, or gearing. Entire units or individual printing couples may easily be made reversible for R. O. P. color in combinations or arrangement providing for the placement of extra colors on any page in the product. This is possible because all gear and main drive housings are pre-engineered so that the minimum amount of additional parts may be added at any time to any black unit when extra colors are required. Thus publishers need not pay initially for color equipment not immediately required. But they have the comforting knowledge that when the need does arise their new Hoe press is so designed that the necessary parts for any color facilities they desire may be purchased to fit in readily, with minimum expense and without discarding standard black press parts.

Further color flexibility is inherent in this new Hoe press by reason of the fact that ink pump boxes may be removed from the rail very quickly to permit substitution of spare boxes reserved for color — or units may at any time be equipped with auxiliary portable pumps or dual ink rails with a pump box at one end for black ink and another at the opposite end available for color. Drive housings at both ends of the press units have facilities built into them initially to accommodate ink pump drives. Moreover, the drives of all standard ink pump boxes are such that they can be reversed quickly and simply when cylinders are reversed.

These thoughtfully planned features would alone put the new Hoe Streamline Color-Convertible Newspaper Press Unit out in front. But a fine product is the aggregate of many superior details throughout its construction and the following page lists some of the others that combine to make this new press a standout in its field.

Further improvements in the Hoe Super-Production Folder give this a degree of added versatility in keeping with the press itself. Individual vertical shaft drives to each folding mechanism are separately clutched for quick disengagement... equalization of fold at all speeds through handy control operable while the press is running... improved high-speed transverse collecting... these are but a few of the features found in the new Hoe folder.

Completing any Hoe press installation in a very fitting manner, especially so when ultra-precise tension is demanded for color registration, the Hoe Reel, Tension and Automatic Web Splicer rises to a position of great importance. Its well known facilities for easy loading, for maintaining uniformly constant tension at all speeds through an electrically controlled, non-web-abrading, driven belt tension, and consistently reliable web-splicing have been enhanced by an entirely automatic auxiliary spindle brake tension which picks up and maintains the running belt tension during splicing sequences, and by a push-button operated splice.



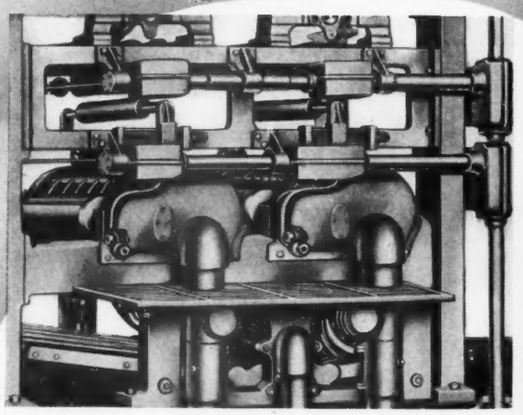
HOE REEL, TENSION & FULL-SPEED WEB SPLICER

Great visibility and simplicity • Simple inexpensive splicing materials • Electrically-controlled driven belt tension • Tension adjustable for fractional width rolls • Automatic auxiliary spindle brake tension • Push-button control throughout including push-button operated splice • One-piece knife severs web completely.

# A *Colorful* ALL-HOE TEAM

HOE STREAMLINE COLOR-CONVERTIBLE NEWSPAPER PRESS UNIT

Streamlined design • Unit enclosure allowing quick accessibility • Patented pump system of ink feed • Three Cylinder Ink Distribution • Crankshaft vibration • Patented reversible feeding-in pans speed up and safeguard web threading • Web leads to either first or second impression couple at will • Solid-steel cylinders running in precision roller bearings • Patented micrometer impression adjustment • Secure and instantaneous plate lock-up • Oil-tight gear casings • Visual automatic forced-feed lubrication • Shear pin protection.



HOE STREAMLINE SUPER-PRODUCTION FOLDER

Anti-friction bearings throughout • Selective main folder drive in oil-tight casings with forced-feed lubrication • Circularly-guided formers • Folding blades adjustable in unison • Fold equalizing adjustment • Improved transverse collecting • Anti-choke protection • Shear pin protection.

HOE

**R. HOE & CO., INC.**

910 East 138th Street, New York 54, N.Y.

BOSTON • CHICAGO • SAN FRANCISCO • BIRMINGHAM

## Great Lakes Conference

(Continued from Page 13)

remove the diffusing lens to make a picture suitable for newspaper use.

Mr. Kirk said he thought concerted—not individual—action should come out of the Great Lakes conference with reference to the subject of contacting local photographers' associations. He suggested that executives from each paper see their managing editor first. It was the consensus of opinion that this would be an effective way to secure better local studio pictures.

As an added thought for the necessity of securing pictures suitable for newspaper reproduction, Chairman English said that sometimes on the Detroit *News* it was necessary to use diffused sepia pictures on buff stock just as they come in because there isn't time to make a glossy copy.

It seemed to be the general opinion that improvement could be made in strip film to get a more opaque dot. Sam B. Anson, jr., of Chemco Photoproducts, discussed a new paper backing for film which his firm has developed. With respect to anti-halation it is a 100% improvement. He stated the new cameras will have few improvements, but there will be more of them a year later.

W. J. Alexander, Photo-engraving superintendent, Cleveland *Press*, stated he had never seen a strip film negative which is comparable to a wet plate negative. Chairman English stated he doesn't like to think of going back to the glass plate. He would rather depend upon future development of equipment. Chairman English, and Messrs. Alexander and Belgrave were among those who asserted "they are going to start hollering for improved photo - engraving equipment."

Oswald DeWitte, Sales Manager of Douthitt Corporation, was called upon by Chairman English to discuss some of the new photo-engraving equipment developed by his firm. He discussed the Douthitt diaphragm control (which he said was not exactly new) but he did want to point out that it was a means for applying mechanical means and eliminating manual calculations and the chance of error due to the human element.

Of equal importance is the proper processing of the negative in the darkroom sink. For this purpose Douthitt has developed a temperature controlled sink which automatically maintains uniform temperature of the chemicals. Any deviation either way from 68 deg. will cause the developer to work unevenly and will affect contrast. If the temperature is too low there will be under-development. Hydroquinone will precipitate when slightly below 60 deg., becoming practically inactive. The fixing bath should be kept at the same temperature as the developer.

Mr. DeWitte explained the Douthitt plate whirler to which is supplied forced-dry-filtered air during the whirling operation. The electric source of heat is baffled so that no light falls on the coating. Air is drawn through an air filter. Air continuously moves across the plate which is whirled face up. The face up position permits pouring the sensitizer while whirling at low speed.

Next, he discussed the Douthitt Type D vacuum frame which is made of metal throughout. The glass and blanket frames are counterbalanced. There is a vacuum reserve tank from which the air is evacuated by a silent rotary vacuum pump, fitted with a vacuum cut-out switch which automatically stops the motor at any desired vacuum and starts it when the vacuum decreases.

Another Douthitt development is a temperature controlled cold top developing sink. It is made of stainless steel with an outer casing of heavy sheet metal to support the insulation. It is furnished with refrigerating and heating units to maintain close differential in temperature in all seasons. This equipment, said he, provides for a constant developing time which is not subject to varying weather conditions and temperatures.

It seemed to be the consensus of opinion that in plates where a 60-line screen is used the proper etching depth is from 0.0045 in. to 0.005 in. in the highlights with 0.003 in. in the middletones. Chairman English remarked that at the Detroit *News* where high shrinkage stereo mats are used, it is important to keep the middletones in halftone plates open. W. J. Alexander, Photo-engraving Supt. of the Cleveland *Press*, thinks extreme etching depth is not so important as where molding is done by wet mats—he wants the surface effect for good reproduction. He uses 65-75 line screens. Fred Uhl, Photo-engraving Supt. of the Cleveland *Plain Dealer*, corroborated opinions of other engraving executives and explained that by "pin point" dot he meant one that has a flat top like the fustrum of a cone and that 0.0045 in. depth in the highlights will be sufficient for clean printing. Said he: "If you have 0.001 in. in the deep tones, you are fortunate."

The question of cold top enamel came up. Mr. Uhl said there are good and bad cold tops and even the good ones are dependent upon the human element for successful manipulation. He believes the cold top situation will improve when shellac again becomes available. John A. Tinscher, Photo-engraving Supt. of King Features, Cleveland office, remarked that a lot of the trouble with cold top is due to the quality of alcohol. Not all alcohols are suitable.

Mr. Uhl said that because of the nature of the lights used at the *Plain Dealer* green dye was not satisfactory because the engravers could not see the work as well as when purple dye is used. He also said a temperature of 90 deg. in the developing tank gives best results.

Carl Hautz, Superintendent of the Sandusky (O.) Register-Star-*News*, remarked that the use of 65 line screen produces more uniform results with high shrinkage mats.

## *Composing Room*

FRED BROOKS, Composing Room Supt., of the Cincinnati *Enquirer*, presided over the Composing Room Session. The first question to come before the meeting was with reference as to whether it would pay to install Teletypesetter equipment in a daily newspaper having a circulation of 8000.

Chairman Brooks called upon Walter W. Morey of Teletypesetter Corporation to discuss the question. Mr. Morey said that circulation of a publication doesn't always enter into the typesetting problem. For instance, the *Reader's Digest* which has a circulation of 9 million copies can be set on two machines in one day. Some papers with big circulations, on the other hand, set a small amount of type. In one plant in the mid-west, one firm having five Teletypesetters, sets great amounts of type for only 30 copies. *Time* magazine transmits its wire service from New York to Philadelphia and Chicago. Composition is handled in these plants like a newspaper. It is all handled on three machines commencing at 5 o'clock through to 3 o'clock a.m. Mr. Morey discussed one installation at McCook, Neb. This plant installed one machine and put a green operator on the tape keyboard after 1 hour's practice. In one week the operator was setting 42% of the composition; in 6 mo., one machine with one operator was setting 92% or 28 columns of composition. He also mentioned an installation in Magnolia, Ark., where only one man in the plant is getting out a daily newspaper. In addition to operating the Teletypesetter equipment, the man operates the press and stereotype equipment.

J. Harold Mintun, Production Manager of the Pittsburgh *Post-Gazette*, and who was associated in a similar capacity with the Decatur Newspapers in Illinois for 11 years, where Teletypesetter equipment is operated, said he thought that consideration of installation of this equipment is an individual problem. The result of such study would be the determining factor in each instance. He did say, however, that you can't operate Teletypesetter equipment with a "screwdriver machinist." One must have a better-than-ordinary machinist to care for and operate the machines. In addition, when Teletypesetter equipment is installed you must throw away old ideas about handling copy and fit them to efficient production. Mr. Mintun feels that on 8, 10 and 12-page daily newspapers the Teletypesetter has a "beautiful future."

A question came up with respect to the dividing line on type sizes for keyboard machines, Ludlows, Monotypes and foundry types. Messrs. Padgett and Link of the Cleveland *Plain Dealer*, H. L. Higgins of the Detroit *News*, and Edw. L. Matlock of the Indianapolis *Star*, all discussed the subject. It seemed to be agreed that what any one newspaper did would not be indicative of what others

should do. In different parts of the country styles are different and the problems are different. A decision must be made in each plant, preferably based on a study conducted during seasonal periods of two weeks each over six months time.

"From a production standpoint, should keyboard faces be duplicated on the Ludlow, Monotype, or in foundry faces?" The answer here seemed to be yes, if the volume of business is big enough, but a definite answer could not be given because executives feel its an individual problem.

LeRoy Church, Mechanical Superintendent of the Akron (O.) *Beacon-Journal*, described the method used in his plant for laying out and handling composition on display advertisements. He cautioned his hearers, however, that here again the answer to this question is an individual problem. In his plant everything possible is set on the keyboard up to 36 pt. Composition ranges from 200 to 300 columns per day at times. One or two men mark the ad copy. The display is set first by one or two men; then the copy is handled progressively down to the smaller sizes. The markup man follows through on the copy.

Cecil Watkins, Mechanical Superintendent, Sidney (O.) *Daily News*, described handling of display copy in his six-machine plant. An All-Purpose Linotype is used for large display. Copy for the APL is marked off on separate sheets of paper and passed to the operator. Balance of copy is divided among three machines. A code system for marking copy is used. One machine handles 12, 14, 18 and some 24 pt. composition marked with blue pencil; another machine handles 5½ pt. and 6 pt. composition marked with green pencil, and the third machine handles 8 pt. and 10 pt. composition marked with red pencil.

A lively discussion was precipitated when Chairman Brooks presented a question related to reasons for higher production costs in the composing room. It was understood this meant those increased costs not attributable to higher wage scales.

### Causes for Increased Costs

H. L. Higgins, Composing Room Supt. of the Detroit *News*, stated that in his opinion paper and advertising rationing by newspapers definitely had increased composing room costs. To illustrate the point, he stated an advertisement, perhaps half page size, would be set. Then before that ad got into the paper it would be reset five or six times, finally winding up in 2 col. by 5 in. deep from the original half-page size. He also said that the advertiser had gotten into a frame of mind which increased composing room costs. The advertiser thinks: "If I have to pay a stiff price per inch for display advertising, I'm going to do anything I want to get the best appearance out of the ad." He then proceeds to revise, tear up and otherwise change the original composition on the proofs. Another source of increased expense, said Mr. Higgins, is that the editor knows that there are 100 columns of space available, but sends up 150 columns of copy. At the end of the day there is considerable overset.

Chairman Brooks mentioned that composing rooms are setting more agate type; columns have been lengthened and markets are now set in narrower pica measure, all of which contribute to greater production costs.

Another cause for increased costs, asserted Deo A. Padgett, Composing Room Supt., Cleveland *Plain Dealer*, are the "fussy woman ad writers in department stores who change their minds with each proof submitted."

LeRoy Church, Mechanical Superintendent of the Akron (O.) *Beacon-Journal*, mentioned that the classified department had asked for an extra column to be added to the page with all columns on the page being reduced to 10½ picas. This composition is more expensive and ties up the machines. Another source of expense is that the editorial department must have something to fill up the first edition. This material consisting of pictures and type is thrown away for the second edition. In one instance, he related that 500 pictures were taken at considerable expense and but 72 were used. "However," he added, "if that's what they want, we'll have to give it to them."

The classified section of the newspaper seemed to be a sore spot with a number of the executives with respect to expense. They felt that any space which had been "saved" as a conservation measure had been used up by the office selling the space that was supposed to have been saved.

Leon A. Link interposed the observation that it seems to him all efforts to make the paper more readable have been set back during the past two or three years. "If we were to take seriously the things Mr. Seltzer mentioned in his Sunday morning address we would have to undo many of the things that have been introduced during the past several years."

It was evident that where management takes a hand, the appearance of the paper could be at least maintained. Horace Parker, Press-Stereo Supt. of the Richmond (Ind.) *Palladium-Item*, recounted that his paper had been maintained with the same physical properties by freezing the classified section, refusing display advertisements that couldn't be set the same day, and by freezing circulation. He said his firm had saved paper through management and not by mechanical means.

Carl Hautz of Sandusky Newspapers said that mechanical executives were supposed to save money for their firm. He made the suggestion that executives tackle these problems in their own way through personal contact with their editors. He asserted that editors as a rule don't realize the cost of composition. In his case, at 11 o'clock each morning and also before the afternoon edition, he informs the editor how much copy can be set before the edition. The idea is to sell the editor upon the physical capacity of the plant and thus secure cooperation.

## *Mailing Room*

THE Mailing Room session of the Great Lakes Mechanical Conference which convened on Sunday afternoon turned out to be somewhat of a paradox. C. Oscar Gneuhs, Mailing Room Foreman of The Cleveland *News* and a director from the official board of the Great Lakes Conference presided as Chairman. It was evident that Chairman Gneuhs and his committee had made careful preparations for an interesting and informative Mailing Room session. However, because of the peculiar status of the Mailing Room in newspaper mechanical and production organizations, and even though there was a goodly attendance present, it developed that there was only a handful of out-of-town mailing room foremen present at the meeting. There were, however, a number of circulation and business managers from different papers in attendance. The rest of the audience was made up of mechanical executives ranging all the way from mechanical superintendents down to departmental foremen.

The meeting had not progressed very far before it resolved itself into a discussion as to why there were not more mailing room foremen present at the meeting.

After various executives had discussed the paucity of attendance on the part of mailing room foremen, it became apparent that most mailing rooms are directly under the supervision of the circulation manager of the paper and as a consequence even though papers had been reached by means of Great Lakes promotional material, both the circulation managers and mailing foremen had not been properly apprised of this meeting. On the other hand it became apparent that those executives present did want to learn something about mailing room operations.

Arthur McAnally, superintendent of the Cleveland *Press* mailing room, was only one of those who felt that mailers had been neglected in the past at mechanical conferences by management, and that it was only too evident among the mailers present that the mailing room is going to be highly mechanized in the near future.

Thomas J. Martin, Mailing Superintendent of the Cleveland *Plain Dealer*, who had been called to the microphone to assist in presenting the program by Chairman Gneuhs, bemoaned the lack of attendance of mailing executives. He said that it had only been during the last ten or twelve years that management, in building new newspaper plants, had included a mailing room especially for the purpose in new buildings. He asserted "Management doesn't care how it's msiled so much as 'Is it mailed?' "

The general discussion finally resolved itself into a determination upon the part of the Great Lakes Directors to see that

(*Continued on Page 50*)

## Should Letterpress Printer Install Offset?

(Continued from Page 14)

one. It is better to explore your customers minds before than after. Point out that you will have to make a heavy investment and ask them as friends for their counsel. If you want to go further into this; compare the price which you actually got for letterpress jobs with what you might have gotten if they had been lithographed.

### Capital Investment

The letterpress printer, of course, must consider what capital investment is necessary for the plant he plans to install. Right here should I say, do not make the mistake of setting up a capital investment budget which leaves out shipping cost on equipment, installation, plumbing, wiring, foundation under the presses including beams, cork foundation, oil pans, etc. The principal item of cost in most lithographic plants is camera and press equipment.

More money has been lost and more reputations for poor work built as a result of purchasing second-hand, obsolete or re-built equipment than from any other cause. When a press is so obsolete that an existing lithographer dumps it, you can be sure it has very little value, yet many such presses have been reconditioned. An old press should be thoroughly rebuilt before it is put into a new plant. If you do buy a used press, check with the former owner of the press, or the press manufacturer, to secure the age of the press, why it was sold and other such pertinent information.

The most trying times in any lithographer's experience occur in his first year or two of operation. Much of this occurs because full consideration was not given originally to the cost of setting up a plant. Of course, any equipment manufacturer will tell you what it costs to buy his equipment. He will tell you too, whether this price is f.o.b. factory; whether it includes the cost of installation; a certain number of days instruction to the personnel operating the equipment; whether the price includes motors, controls, sinks, plumbing, electricity and other capital investments which must be made. It is far better to over-estimate the capital necessary to set up a plant, than it is to figure too close or possibly under.

### Setting Up Modest Plant

Let's set up a modest litho plant with say one 17x22 Harris press and one 22x34 Harris press and see what capital investment is necessary:

**INVESTMENT NECESSARY TO SET UP LITHOGRAPHIC PLANT**

| Equipment | Floor Space | Investment New |
|---|---|---|
| Camera, including lens, screen. Arc lamps, dark room sinks, dryer, whirler, vacuum frame, etc. | 800 sq. ft. | $ 3200.00 |
| Glass tables for stripping, opaquing, etc | 400 sq. ft. | 500.00 |
| Press 17x22 with washup equipment | 300 sq. ft. | 5000.00 |
| Press 22x34 | 500 sq. ft. | 12250.00 |
| Plumbing, electricity, etc | 400 sq. ft. | 2050.00 |
| | 2400 | $23000.00 |
| Cutter? | | |

Now, in my opinion the printer who owns a small, one or two-press plant completely equipped with camera, platemaking and press equipment must anticipate selling a yearly volume of about four times his capital investment. The cost of setting up any litho plant must, of course, be predicated on possible sales and litho equipment is not cheap. For example here are the pre-war prices on some equipment offered for sale and in reading them remember that the manufacturers are looking for O.P.A. approval of higher prices.

### Availability of Skilled Help

Now let's consider the availability of skilled help. In 1942 the Department of Labor estimated that 85% of the craft employees in the lithographic industry were members of the Amalgamated Lithographers of America. An even higher degree of organization is probable in the major litho centers. The Amalgamated has a regular apprentice training period of four years and a ratio of one apprentice to four journeymen is generally applicable. The total craft employment in the industry might reach about 25,000 with probably another 25,000 employed as salesmen, estimators, bookkeepers and other office help. Competent litho craftsmen always have been hard to get. If this condition persists it is difficult to say where a newcomer is to obtain help.

**COST OF NEW LITHOGRAPHIC EQUIPMENT AT PRE-WAR PRICES**

| | |
|---|---|
| Camera, lens | From $2200 up to five figures |
| Screen, lamps, etc. | |
| Sink, plumbing and electricity | Dependent on what's wanted |
| Dryer, utensils | Dependent on what's wanted |
| Stripping and opaque tables | $250 and up, dependent on size of plant |
| Whirler, vacuum frame, sinks, table, etc | $500 and up, dependent on size of plant |
| 36 x 30 | $1000 |
| 36 x 44 | 1500 |
| 41 x 54 | 2000 |
| Photo-composing machines | $5500 and up dependent on size desired |
| 22 x 34 | 5500 |
| 30 x 42 | 6500 |
| 41 x 54 | 10000 |

**LITHOGRAPHIC PRESS (PREWAR COSTS)**
(SINGLE-COLOR)

| | Press | Washup Equipment | Delivery | Flooring Cork Pans,etc. |
|---|---|---|---|---|
| 14x20 Web | $ 2627 | $ 50 | ? | ? |
| 17x22 Web | 3721 | 60 | ? | ? |
| 22x28 Web | 6143 | 75 | ? | ? |
| 17x22 Harris | 4450 | 75 | FOB | ? |
| 21x28 Harris | 7000 | 100 | " | ? |
| 22x34 Harris | 11500 | 140 | " | ? |
| 26x40 Harris | 16250 | 150 | " | ? |
| 31x44 Harris | 18000 | 165 | " | ? |
| 42x58 Harris | 21000 | 175 | " | ? |
| 50x69 Harris | 26500 | 180 | " | ? |
| 42x58 Mieble | 18750 | 175 | " | ? |
| 30x42 Hoe | 16500 | 165 | " | ? |
| | TWO | COLORS | | |
| 26x40 Harris | 26000 | 300 | " | ? |
| 35x45 Harris | 29000 | 330 | " | ? |
| 42x58 Harris | 34000 | 350 | " | ? |
| 50x69 Harris | 42000 | 360 | " | ? |
| | FOUR | COLORS | | |
| 42x58 Harris | 65000 | 700 | " | ? |
| 50x69 Harris | 78000 | 720 | " | ? |

### Skilled Help and Wages To be Paid

The question of competent help is of utmost importance to a newcomer in the lithographic field. A competent letterpress pressman spends years in learning his trade. Makeready, register, ink distribution—these are some of the elements of presswork which a good relief pressman must know thoroughly. The offset pressman, in addition to knowing these factors, must know something about the chemically treated plate he is to run as well as how the water fountain and dampening device should function—working equipment not common to the type printer. A lithographic plate chemically treated is vastly different from an electrotype or halftone. When an electrotype or a halftone goes bad, the press can be stopped and the form patched up. If anything happens to one small portion of a lithographic plate, it usually means a new plate must be made.

Regardless of the equipment you install, equipment of itself cannot produce quality work. The greatest expense in many lithographic plants is that of inefficient help. If there is one pointer a lettershop needs in considering offset, it is this: to successfully operate he must employ competent help at proper wages.

Now let's look at the litho wages in just one city. I have chosen New York because I know about what's doing there. Of course each printer must size up the wage story in his own area. This is how it stands in New York, N. Y., showing not only the scale but actual going

wages. Skilled help is so scarce today that a reasonably good man can just about name his own price.

**LITHOGRAPHIC HOURLY WAGES IN NEW YORK, N. Y.**

| | Wage Scale | Actual Premium Men Today |
|---|---|---|
| Dot etchers | $1.90 | $2.25 and up |
| Color separators | 2.09 | 2.25 " " |
| Cameraman HT | 1.69 | 1.75 |
| Strippers, color | 1.61 | 1.75 |
| Strippers—B&W | 1.50 | 1.60 |
| Opaquer | 1.25 | 1.40 |
| Platemakers | 1.50 | 1.60 |
| Tuschers, color | 1.50 | 1.60 |
| Photo Comp. machine | 1.69 | 1.75 |
| Pressman, one color, up to 25" | 1.31 | 1.60 |
| Pressman, one color, 26" to 30" | 1.42 | 1.65 |
| Pressman, one color, 31" to 64" | 1.64 | 1.80 |
| Pressman, one color, over 64" | 1.74 | 1.90 |
| Pressman, two color, up to 25" | 1.47 | 1.70 |
| Pressman, two color, 26" to 64" | 1.96 | 2.25 |
| Pressman, two color, over 64" | 2.06 | ..... |
| Press assistants up to 30" | .93 | 1.10 |
| Press assistants, 30" to 48" | 1.07 | 1.25 |
| Press assistants, two-color | 1.20 | 1.45 |

Every printer certainly must know the cost of doing business and any survey of failures in the Graphic Arts will disclose three basic reasons for such failure. First, of course, is poor management, then there is the lack of knowledge of costs, and finally, inadequate working capital. No printer can know what litho costs will be till he is actually operating but he should set up budgeted hour rates based on man hours and the equipment which he considers installing. Such a study will be of inestimable value to him in making further surveys of the question. Here are examples of how litho budget rates are set up. They are only examples but will help fill out our picture.

### Secure Top Litho Help

After a printer has decided to go ahead with his litho shop, the first job is to secure some sort of help so he can get rolling. Actually most printers know little or nothing about the lithographic process, and must rely on key litho men who have had experience to guide them through their early days. May I stress the fact that the best insurance a newcomer can take out to cover his first experience days, is that of securing at any price the top litho help available.

You may be sure that on the first try plates will go bad, certain stock will not run, colors will not register properly. There will be plenty of trouble. These troubles constitute the price to be paid in getting your experience when entering a new and highly-skilled industry. You will come to the point at times during your first year when you will want to throw out the whole works. If you actually sit down and figure what it has cost you, or if your working capital is not sufficient you probably will throw out the whole "damn mess."

**OPERATING COSTS WITH PREMIUM WORKMEN**

| | Press 17x22 | Press 22x34 | Press 34x44 |
|---|---|---|---|
| Center investment | $5000.00 | $12250.00 | $18000.00 |
| Rate depreciation | 7½% | 7½% | 7½% |
| Floor space | 250 sq. ft. | 400 sq. ft. | 600 sq. ft. |
| Power | 3 h.p. | 4 h.p. | 7½ h.p. |
| Depreciation | 375.00 | 918.75 | 1350.00 |
| Insurance | 7.08 | 17.35 | 25.49 |
| Taxes | 14.16 | 34.69 | 50.98 |
| Social security at 1% | 33.80 | 59.80 | ..... |
| Rent (rate $.50 per sq. ft.) | 125.00 | 200.00 | 300.00 |
| Direct supplies | 372.00 | 558.00 | 744.00 |
| Repairs and maintenance | 125.00 | 250.00 | 375.00 |
| Power | 112.00 | 150.00 | 280.00 |
| Payroll (N. Y. premium rates) | *3380.00 | **5980.00 | ***6240.00 |
| Sub total | 4544.04 | 8168.59 | 9365.47 |
| Gen. factory 15% | 681.60 | 1225.29 | 1404.82 |
| Departmental overhead 8% | 363.52 | 653.49 | 749.24 |
| Total budgeted cost 1560 Hours | 5589.16 | 10047.37 | 11519.53 |
| Total budgeted cost 1 Hour | 3.58 | 6.44 | 7.38 |
| Markup to cover Adm. & selling | 5.37 | 9.66 | 11.07 |

* @ $65 ** 1 @ $65, 1 @ 50 *** 1 @ $70, 1 @ 50

**OPERATING COST WITH SCALE WORKMEN**

**OPERATING ACTIVITY 75% OF 2080 HOURS**

| | Press 17x22 | Press 22x34 | Press 34x44 |
|---|---|---|---|
| Center investment | $5000.00 | $12250.00 | $18000.00 |
| Rate depreciation | 7½% | 7½% | 7½% |
| Floor space | 250 sq. ft. | 400 sq. ft. | 600 sq. ft. |
| Power | 3 h.p. | 4 h.p. | 7½ h.p. |
| Depreciation | $375.00 | $918.75 | $1350.00 |
| Insurance | 7.08 | 17.35 | 25.49 |
| Taxes | 14.16 | 34.69 | 50.98 |
| Social security @ 1% | 27.17 | 51.68 | 51.68 |
| Rent (rate $.50 sq. ft.) | 125.00 | 200.00 | 300.00 |
| Direct supplies | 372.00 | 558.00 | 744.00 |
| Repairs and maintenance | 125.00 | 250.00 | 375.00 |
| Power | 112.00 | 150.00 | 280.00 |
| Payroll (N. Y. Scale Wage) | *2716.60 | **5167.76 | ***5167.76 |
| Sub total | 3874.01 | 7348.23 | 8344.91 |
| General factory overhead 15% | 576.00 | 1102.23 | 1251.74 |
| Departmental Gen. overhead 8% | 307.52 | 587.85 | 667.59 |
| Total Budget Mfg. cost 1580 Hours | 4758.13 | 9038.31 | 10264.24 |
| Total Budget Mfg. cost 1 Hour | 3.05 | 5.79 | 6.58 |
| Markup to cover Adm. & selling exp. 50% | 4.58 | 8.69 | 9.87 |

* @ $52.30 ** 1 @ $56.75, 1 @ 42.63 *** 1 @ $56.75, 1 @ 42.63

### Insuring Against Loss

If you are planning to install lithographic equipment and desire to insure yourself against loss, one way to accomplish this is to associate yourself *with a lithographer* already in the field. An association of this kind will give you experience in handling your customer's lithographic requirements. It will give you an education in selling, estimating, producing and costing lithography. Under this arrangement you can carefully measure whether you are losing orders because of the particular process that is being used or because of salesmanship, unnecessarily high cost of standing or obsolete equipment or other factors.

Possibly the easiest way to secure lithographic experience is to buy an existing lithographer's plant. Take over all the personnel. The shop men know how to operate the equipment, the sales and office force know how to handle their particular work to advantage. If it is possible, give the old owner an opportunity of running your new lithograph department.

## Changes Corporate Name

According to W. B. Clum, president of Adcraft, Inc., 3420 So. Hopi St., Los Angeles, the company's name has been changed to Pacific Press, Inc. Announcement of change in company name was made simultaneously with release of information that the western edition of *Life* magazine will be printed in the Los Angeles area. This company also prints the western edition of *Time* magazine. In addition to printing mass circulation magazines and controlled circulation newspapers, Pacific Press also produces brochures, magazines and house organs, advertising circulars, and folders. It is claimed by Pacific Press that it uses the only Photochrome press on which are produced display banners at high speed and printed in six colors at one impression.

● The Goss Headliner Newspaper Press was announced on February 10, 1945.

The First Headliner unit is now installed in the Chicago Tribune press room.

The Goss Tension Plate Lock-up has been in service for months on presses of the Minneapolis Star Journal Tribune.

The Goss Continuous Feed Ink System has stood the test of six years operation at the Indianapolis Star.

The Headliner is beyond the blueprint stage and doing everything we claimed for it—and more.

**THE GOSS PRINTING PRESS CO.**
1535 S. PAULINA STREET • CHICAGO 8, ILLINOIS
NEW YORK • SAN FRANCISCO • LONDON, ENGLAND

GOSS

**Two South Americans and twelve returned veterans are among the 21 students enrolled this fall in the Department of Printing at Carnegie Tech. Another entering class will be admitted in January. Photograph shows part of typography class.**

## Carnegie Institute of Technology Notes . . .

AFTER two years of reduced enrollment due to the war, the Department of Printing at Carnegie Institute of Technology began the fall semester on October 2 with a total of 21 students, of whom 12 are in the entering freshman class. More than half the men are veterans from the Army, Navy, and Air Corps.

To accommodate numerous other veterans, arrangements have been made to admit another entering class at the beginning of the second semester in January. A full summer term of 16 weeks will be added if demand warrants it.

Lawrence M. Cornacchia of Forest Hills, N. Y., a senior in the Department of Printing at the Carnegie Institute of Technology, is winner of the Reinhold-Gould award of $100 for the college year 1945-46. Established by H. E. Gould, president of Reinhold-Gould, Inc., New York, N. Y., the award will be given annually to a Department of Printing student of high scholastic promise at the beginning of the school year as a scholarship to help defray tuition expenses. It is open to upperclass students in the Department.

Cornacchia comes from a family of printers, his father, uncle, and brother being engaged in the trade, and has worked with his father at the Arlington Press, New York. At Carnegie his principal interest has been cost accounting.

Charles W. Pitkin former Assistant Professor of Printing who had been a member of the faculty since his graduation in 1932, left Tech in August to take a position with Doubleday, Doran & Co., book publishers, in New York City. Taking his place is Stanley Hlasta, who was an instructor in the Department for four years up to 1942, when he left to take a war production job. Mr. Hlasta is in charge of the laboratory courses and has the title of Assistant Professor. Homer E. Sterling, Assistant Professor of Design, who has been Executive Director of the USO for Allegheny County while on leave of absence, has also returned to the campus on a half-time basis. He, Mr. Hlasta and Laurance B. Siegfried, newly appointed head of the Department, will constitute the regular faculty.

Plans are now under consideration for resumption of the evening courses which were discontinued during the war years. Conducted primarily for men and women employed during the day, these courses formerly included hand composition, linotype and monotype operation, layout, lettering, proofreading and copy preparation, platen and cylinder presswork, offset lithography, and estimating.

## Hoe Now Works On $20 Million Orders . . .

R. HOE & CO., Inc., is manufacturing printing presses again. An arsenal during the war years, the massive factory along the East River bank in New York, N. Y., and its auxiliary plant at Dunellen, N. J., have now been reconverted to peacetime industry.

The $20 million worth of War Department orders that were still to be filled on V-J Day have become a bookkeeping memory. The business of today is filling a backlog of orders for new printing press equipment approaching the same figure.

Arthur Dressel, Vice President and General Sales Manager, stated that the first shipment of Hoe newspaper press equipment made since V-J Day was delivered to the Washington (D.C.) *News* in October. Manufacturing operation has already begun on a number of large presses on which work was stopped when war began, shipment of which is scheduled to start early in 1946.

"A year ago", explained Joseph L. Auer. Vice President and General Works Manager, "this new set-up was merely a picture on paper".

Today Hoe officials point out, it's a modern streamlined plant in action—a 140-year-old firm doing business in the 1945 manner.

"Right up to V-J Day", Mr. Auer emphasized, "we were working up to capacity on war orders. Then we shut down for two weeks and made the changes".

The picture on paper has been translated into a production system which has relegated to the scrap pile scores of old machines and brought into use more than 70 new ones, mostly purchased from the government, originally valued at approximately $1½ million.

The factory area has been enlarged considerably, too. A large shop constructed during the war provides a vast assembly area for the company's offset and metal decorating presses, clearing a large portion of one of the original factory buildings for an enlarged newspaper, rotogravure, and magazine press assembly room.

Another change involves the Dunellen, N. J., plant, a unit of which had been utilized merely for storage before the war. Now that has been brought into use as expanded machine shop facilities in connection with the foundry operations and virtually all machining of the heavy casting work is now done there.

Besides the investment in new machinery, Mr. Auer stated the changeover in plant reconversion represented a further expenditure of approximately $200 thousand.

The Hoe Company accomplished a job in war production which some experts thought could never be done outside a government arsenal.

Mr. Auer showed a recent letter from Brig. Gen. G. M Wells of the Office of the Chief of Ordnance, attesting to the fact of the Hoe Company It read:

"Now that the excitement of the Jap capitulation has passed, it is only natural that our thoughts would turn to those who have done so much to help bring this war to a successful conclusion. It is hard to believe that we once doubted the ability of anyone outside the Arsenals being able to produce satisfactory recoil mechanisms. Your company not only showed the way but you also proved that it could be done better and at lower cost. Many times you were called upon to meet seemingly impossible production schedules, which you and your associates always managed somehow to accomplish".

General Wells also thanked Mr. Auer for serving as assistant chairman of two important industry committees.

Mr. Dressel pointed out that the first of the new presses to be completed and on which manufacture was started prior to the war follow generally the pre-war design. He further explained, however, that production has already been started on Hoe's postwar models featuring an ultra streamline design and including its latest engineering developments and particularly convertible features which are claimed to greatly facilitate newspaper color printing possibilities.

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*Pass along your mechanical improvements to other executives who read* PRINTING EQUIPMENT ENGINEER. *They'll be glad to have your help.*

# Patents

## For The Graphic Arts Field

The patents reported here are those issued on September 18, September 25, October 2, October 9, October 16.

**All new patents for the Graphic Arts are reported exclusively for Printing Equipment Engineer by Invention, Inc., an industrial patent research organization in Washington, D. C. Invention, Inc., presently has the only staff in the country that examines, in the U. S. Patent Office, the complete printed copy, drawing by drawing and page by page, every one of the several hundred new patents issuing each week, Printing Equipment Engineer is the only trade publication in its field offering a report based on this complete coverage. For copies of the patents listed here, specify the patent numbers and send 10c for each separate patent (stamps not accepted) to the Commissioner of Patents, Washington, D. C.**

### Binding, Cutting, Perforating:

2,386,740. SUPPLEMENT BOOK for use particularly in conjunction with law books where subject matter is constantly subject to legislative amendment or judicial interpretation. The supplement is bound or stitched on the sides similar to books with which it is to be used, and is mounted on a backing which is adapted to slip into an envelope carried on the back cover of book in such a manner that it may be leafed over with the book itself or in a position extended above the cover. The backing of supplement is in the form of two panels which are integrally joined and offset from one another. The lower panel extends to the left of the supplement and is adapted to be folded backward in relation to supplement to be slipped into envelope on back of book, which envelope opens toward the book trough. To the top edge of upper panel, the top of back page of supplement is attached. The upper panel, when in flat and extended form, is above the book binding and allows the supplement to be leafed independently of the book. Upper panel is scored in two places to be folded—one fold being near bottom of upper panel and flush with top of offset panel and the other about midway of the panel. Invented by Milton H. Harris, Brooklyn, N. Y. Unassigned. Application June 10, 1944. 3 claims.

### Composing Room Equipment:

2,385,064. SAFETY DELIVERY LINK SLIDE adapted for use in conjunction with type setting machines prevents jamming of matrices during their delivery from the slide and possible injury of the operator. A reciprocable driving member has a stud adjacent one end and a bifurcated cam at its other end. A parallelly reciprocable driven member has a stud disposed within the bifurcated cammed end. A contraction spring is secured to one stud and is detachably secured at its other end to the stud disposed within the bifurcated cammed end. Thereby engagement of the driven member with an overload causes the spring to be released from the stud in the cammed end during the pull of the driving member. Invented by Walter J. Droski, Grand Rapids, Mich. Unassigned. Application July 17, 1944. 1 claim.

### Feeding, Folding and Delivery:

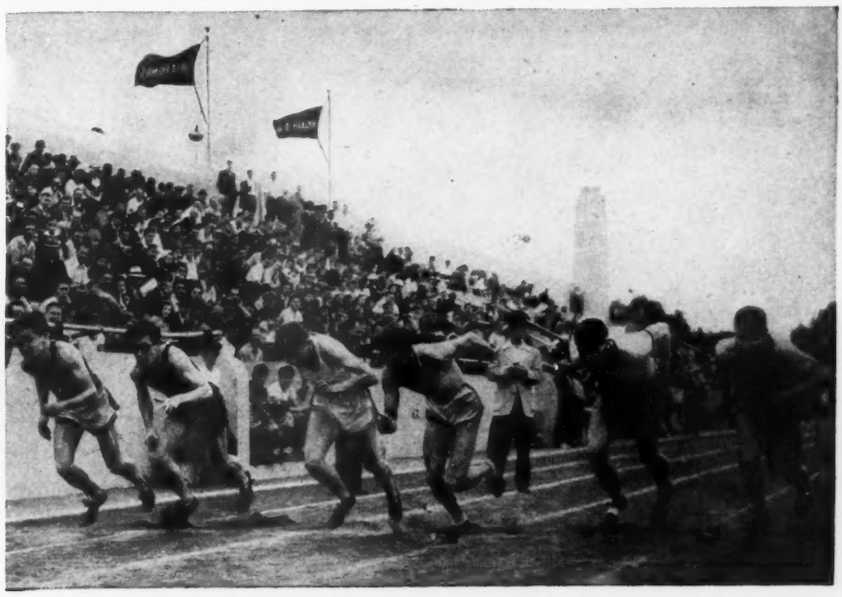
2,385,047. SHEET FEEDING MECHANISM, especially suitable for small print shops, can be adjusted to handle sheets of a very wide range of thickness, stiffness, and surface smoothness. A pulley situated on the rear side of the machine is operated by and in unison with the driving connections between the motor and sheet feeding mechanism, and a second pulley located on the rear side drives the sheet feeding means. A belt engaged over the pulleys is normally loose enough so that it does not transmit motion to the second pulley except upon operation of a belt tightener that may be actuated by a shaft, which extends from the front to the rear of the machine and is connected to the tightener. An operating handle on the front end of the shaft rocks the shaft, and then a latch mechanism on the handle holds it in any position to which it is adjusted. When belt is tightened, second pulley is driven, which causes driving (through gears) of the feed roller. Immediately after machine is started, the speed of the motor may be regulated to effect the proper speed of the feeding mechanism and, during operation of the feeding means, the relation of the feed roll to the paper support may be adjusted by means of screws. Invented by Joseph Adrian, Cleveland, Ohio. Assigned to The Turner Type Founders Company, Cleveland, Ohio. Application March 31, 1943. 4 claims.

2,385,581. MACHINE FOR WORKING CARDBOARD BLANKS which are successively moved by gripper bars carried between a spaced pair of endless chains, the blanks being alternately moved and deposited. An intermittent drive for the chain sprocket shaft is used and it includes a coupling which is constantly coupled to sprocket shaft, but is movable on shaft between two axial positions. In the first position, shaft is integrally coupled to a power source and in second position, shaft is rigidly locked to machine frame. In cooperation with the intermittent drive, a lock is applied, when coupling is in non-drive condition, directly to gripper bar so as to hold ends of bar tightly against the drive sprockets. Invented by Josef Kury, Lausanne, Switzerland. Assigned to J. Bobst & Fils S. A., Prilly, Switzerland. Application September 17, 1941. 1 claim.

2,385,659. WEB ACCELERATING MECHANISM feeds sections cut from a web moving at a low speed to one or more webs travelling at a higher speed permitting the increase of a product in two-page jumps when the press is making a "collect" run. This is accomplished by printing an extra web travelling at one-half the speed of the regular web or webs, cutting sheets from the extra web, accelerating such sheets to full web speed, and consolidating such sheets with alternate sections of the product formed from the other webs. Apparatus comprises a continuous flexible conveyor element travelling over two spaced rotatable members, with the span of the conveyor moving from the first to the second rotatable element, being guided along an initially straight path and then along a path of progressively decreasing radius of curvature terminating in the curvature of the second rotatable element. Sheet propelling arms extend radially outward from spaced points on the flexible conveyor and sheets are delivered to the arms at the straight portion of the path and are guided along a path parallel to conveyor. Sheets are removed from the arms when the conveyor reaches the point of minimum radius of curvature of the curved path. Invented by Isidor Tornberg, Plainfield, N. J. Assigned to Wood Newspaper Machinery Corporation, Plainfield, N. J. Application April 26, 1943. 14 claims.

2,386,344. WEB SPLICER for paper, such as newsprint, in which the judgment or care of an operator in determining the exact point of a splice is not required, inasmuch as actuators on the old and new webs make the point of splice and the severing of a short tail on the old web automatic. The actuators may take the form of dark stripe on the old and new webs, near the adhesive tabs and the perforations along which webs are to be severed. These dark strips are scanned by photoelectric cells. Or the actuators may also take the form of electrical conductive strips on the webs, instead of the black or dark stripe, in which case the photoelectric cells are replaced by a pair of electrical contact brushes. Invented by Oscar C. Roesen, Scarsdale, N. Y. Assigned to Wood Newspaper Machinery Corporation, Plainfield, N. J. Application April 14, 1943. 11 claims.

2,386,345; 2,386,346. DEVICES FOR SPLICING WEBS in which actuators of the type described in patent

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2,386,344, above, are used. The present patents cover improvements in the apparatus for the use of tabs which releasably secure the leading end of the new web to its roll and which cause adherence between such leading web end and the running web. The tabs may removably secure the leading end of web on the new roll while that roll is being accelerated. After splice is made, the under surface of new web end is immediately moved past a responsive means of the type described in patent 2,386,344 which releases or extends a knife that cuts the old web close behind the splice. Invented by Oscar C. Roesen, Scarsdale, N. Y. Assigned to Wood Newspaper Machinery Corporation, Plainfield, N. J. Applications February 16, 1944 and March 11, 1944. 15 and 17 claims, respectively.

### Miscellaneous:

2,386,674. PRINTING PADS AND BLANKETS, BOOK CLOTH, roller blinds, etc., are prepared by using these textile waterproofing and crease-proofing agents as adhesives for doubling fabrics. The agents are also resistant to exposure to acids, alkalies, and oil, and are useful in the manufacture of pump diaphragms. Composition comprises an aqueous dispersion of copolymers of ethylene of horny consistency and polyisobutylene, the proportion of polyisobutylene being from 5 to 15 parts by weight per 100 parts of the total weight of polymers of ethylene and polyisobutylene. Pigments and fillers may be added. Invented by Colin F. Flint and Robert B. F. F. Clarke, Blackley, Manchester, England. Assigned to Imperial Chemical Industries Limited, Corp. of Great Britain. Application August 19, 1941. 2 claims.

2,386,696. ADHESIVE COMPOSITION which may be used as a readily removable mask in photography and in printing, and may also be used in bookbinding as well as in the manufacture of leather goods, for securing wallpaper, etc. A typical composition is: smoked sheet rubber, 10 lbs.; gutta resin, 2 lbs.; magnesium oxide, 1 lb.; Flectol H, 1 oz.; and varying amounts of solvent. The composition may be made more free flowing by the addition of waxes or oils such as paraffin wax. Invented by Joseph Lloyd, Pendleton, Salford 6, England. Assigned to J. Mandleberg & Company Limited, Pendleton, England. Application May 25, 1942. 4 claims.

### Plate Making:

2,384,857. METHOD OF PRODUCING A PLATE FOR INK AND DYE PRINTING which includes providing a carrier with a toothed or grained surface to which is applied a thin film of photo-sensitive silver emulsion so that the outer surface of this emulsion conforms to the tooth or grain on carrier. An image is produced on plate by exposure to light. The plate is then developed, fixed, washed and subjected to the action of a tanning solution for hardening the developed image and making it receptive to greasy ink. The unexposed portions of the plate are adapted to receive and be uniformly wet by aqueous repellents. Invented by Bennett F. Terry, Stamford, Conn. Unassigned. Application April 30, 1941. 4 claims.

2,384,898. PHOTOGRAPHIC PLATE PROCESSING MACHINE for increasing the speed and reproducibility of developing, hardening, and fixing films and photographic plates. Acid-proof trays contain the developing, hardening and fixing solutions and have a common support capable of being rocked at a definite rate so that the solutions will be agitated regularly over the films or photographic plates to assure uniform chemical action over the entire photographic surface. Such rocking permits the use of stronger solutions. The support is in the form of a tank containing a suitable cooling fluid, such as water. A thermostat, responsive to the changes in temperature of the solutions in the trays, controls the supply of fresh water to tank. Invented by Harry W. Dietert, Detroit, Mich. Unassigned. Application September 14, 1942. 6 claims.

2,385,073. TIME-SAVING PHOTOENGRAVING PLATE COOLER prevents the warping of the plates while cooling. The top of a rectangular based water box is covered with a cooling bed plate through which there is a series of holes. A series of pipes are fixed in the holes and extend down to the water chamber under the plate. Water is forced into the chamber and out through the pipes to the bed plate, so that the entire cooling surface is kept at a uniform temperature and no distortion of the plate to be cooled can occur. Extending around the entire middle portion of the box is a trough having a downwardly projecting flange. A discharge waste passage is fixed into the trough. Invented by Edward Graney Grubbs, Los Angeles, Calif. Unassigned. Application June 27, 1944. 4 claims.

# Darkening of the Bright Silver Surfaces of Copper Electrotypes

By M. S. Kantrowitz

IN THE silver spray process of producing an electrically conductive film on vinylite electrotype molds, the resulting copper shell possesses a silvered face of almost mirror-like brightness. This silver film is a handicap in soldering and finishing operations because:

(1) The electrotype backing metal at times flows under the shell where it readily solders to the silvered printing surface, requiring a laborious and expensive removal procedure.

(2) The bright surface hinders the electrotype finisher in his operations since he is accustomed to determining low spots on the electrotype by burnishing the surface with a special flat abrasive rubber which leaves the low areas dull and the high or printing areas polished. Since the silvered shell is bright over its entire surface, it is difficult to secure contrast by burnishing.

The first method developed in the Government Printing Office to solve these problems was the use of a solution of iodine and stearic acid in isopropyl alcohol, thickened with French chalk and painted over the silvered surface just before the shell was placed on the backing pan for tinning.

This operation proved effective in dulling the silver finish, but iodine and alcohol are expensive. In addition, alcohol is very volatile, requiring great care to prevent its loss by evaporation.

A second solution, therefore, was developed to achieve the same result with less expensive chemicals. Liquid soap, water and sodium sulphide, thickened with French chalk comprise the ingredients used in this new solution, which has proved effective for most electrotype plates. The new solution costs approximately $.315 per gallon as compared with $1.04 per gallon for the iodine solution. The formula is as follows:

20 oz. liquid soap full strength;
add water to make 1 gal.
1½ oz. sodium sulphide thoroughly dissolved;
add enough French chalk making a thin solution.

The tarnishing effect of the sodium sulphide solution depends on the formation of a black silver sulphide film as the result of chemical reaction between the solution and the silver.

It is possible that this new solution may be found useful and economical in industrial electrotype foundries where the silver spray process is used.

NOTE: Appreciation is extended Craftsman John A. McLean, Superintendent of Platemaking, Government Printing Office, for his assistance in the preparation of this article.

—Courtesy *The Capital Craftsman*

2,385,562. STENCIL FOR PRINTING TEXTILES allows the use of dye pastes which are corrosive. Waxed paper, Cellophane or shellac film, which has previously been used, is here replaced by a translucent film which is completely resistant to the acids, alkalies, and mordants commonly used in dyeing. The film, carried on a fine textile fabric screen, has as its major component a vinyl-halide-vinyl-acetate copolymer. Film is mounted upon a removable backing sheet and has cut-out portions forming a pattern. Invented by Alexander Baczewski, New York, N. Y. Unassigned. Application November 14, 1940. 1 claim.

2,386,347. GREASE-RESISTANT, WATER-RECEPTIVE, NON-PRINTING AREAS of planographic, lithographic printing plates are prepared by use of hydrolyzed vinyl ester ethylene interpolymers insoluble in cold water but which are hydrophilic. After suitable treatment with a water-soluble light-sensitive bichromate and exposure to light and development these interpolymers can also be employed satisfactorily in the grease-receptive printing areas of the lithographic plate. The hydrolyzed interpolymer has the empirical formula $(C_2H_4)_x(C_2H_3CH)_y.(C_2H_3OR)_z$ wherein R is an acyl radical of an organic monocarboxylic acid and x, y and z are numbers, the ratio of y plus z to x being within the range of from 1:5 to 50:1 and the ratio of y to z being at least 4:1. Invented by John R. Roland, Jr., Wilmington, Del. Assigned to E. I. du Pont de Nemours & Company, Wilmington, Del. Application February 13, 1945. 29 claims.

2,386,591. PRINTING PLATE WHIRLER evenly distributes the lithographing sensitizing solution over the plate as it rotates slowly and then directs air of low humidity over the entire surface of the plate as it rotates faster, while preventing any illumination, either from outside light or from the electric heaters inside, from reaching the light-sensitive surface. A freely rotatable plate holder is journaled in a hollow enclosing housing and has an annular flange on the bottom which is frictionally engageable with a corresponding annular flange of a clutch which is on the journal. Invented by James T. Campbell, Detroit, Mich. Unassigned. Application March 22, 1944. 6 claims.

2,386,626. DRAWING SURFACE of high transparency. It is possible to surperimpose 5 sheets and still be able to read the drawing on the bottom sheet. Railroads, waterways, highways, etc. may be copied from aerial photographs onto separate sheets with different colored inks, superimposed, and are thus suitable for photographic printing and subsequent printed reproduction if required. The drawing sheet is made of transparent cellulose acetate sheet and is coated with the following solution: grounded glass, 3.54%; cellulose acetate, 5.80%; gelatin, 0.26%; soldium sulfate, 0.60%; water, 0.80%; methyl cellosolve, 14.00%; acetone, 69.50%; methanol, 3.50%; and acetic acid, 2.00%. The liquid components of the formula are dried out, substantial quantities of the sodium sulfate are removed with water, and coating is again dried. Invented by Gale F. Nadeau, Edwin H. Hilborn, and Clarence S. Hunter, Rochester, N. Y. Assigned to Eastman Kodak Company, Rochester, N. Y. Application January 30, 1943. 3 claims.

2,387,048. SCREEN FOR PRODUCING A POSITIVE, which will have a half-tone dot formation in the lighter tone areas and a gravure dot in the denser tone areas, suitable for use in making intaglio, photogravure printing plates or cylinders. The step known as "Carbon tissue screening" is eliminated. Screen is made up of transparent base material having numerous parallel dense tone solid bands, and other parallel dense tone solid bands intersecting the first bands. Circular figures at the intersections of the bands have dense centers and fade toward their peripheries. The bands are spaced in accordance with half-tone practice and the circular figures extend beyond bands and intersect midway between the bands. Invented by Harley C. Alger, Chicago, Ill. Unassigned. Application July 18, 1942. 3 claims.

2,387,056. DICHROMATE SURFACE PLATE COATING for use in lithographic printing which eliminates the use of egg albumen and assures long and uniform press runs, rendering high negative values, smoother tints, and finer detail. Solution comprises a sensitizer, about 12 parts of casein, from 4 to 6 parts of gelatin, and about 1 part of borax. Invented by Arthur W. Buck and Joseph W. Miller, St. Louis, Mo. Assigned to Buck X-Ograph Company, St. Louis, Mo. Application April 12, 1943. 2 claims.

### Printing Inks and Related Chemicals:

2,384,846. RESINOUS MATERIAL which may be used in conjunction with other oils, and/or resins to produce varnishes, inks, and for coating and impregnating purposes, either clear or pigmented. Process consists in reacting glycerine and fatty acids selected from the class consisting of drying and semi-drying oil fatty acids in equimolecular proportions until a neutral product is formed. Resulting reaction product is heated with an equimolecular quantity of maleic anhydride at a temperature of 250-300° F. for a time sufficient to reduce the acid number to about 60-30. Invented by Charles G. Moore, River Forest, Ill. Assigned to The Glidden Company, Cleveland, Ohio. Application November 8, 1941. 3 claims.

2,385,613. PRINTING INK, especially suitable for use in stencil duplicating processes because it remains fluid and homogeneous when exposed to the air for long periods of time, and yet will dry rapidly when extended into a thin film. A specific example of the ink is as follows, with parts by weight: resin soap (consisting of shellac, borax, and ethylene glycol), 45; ethylene glycol, 25; heavy mineral oil, 10; commercial lamp black, 10; and 79% aqueous solution of neutral sulphonated caster oil, 5. Invented by

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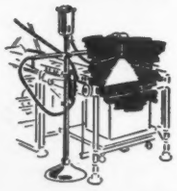

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It is this difference in processing that is all important, especially in a round belt. The ACE Belt is made of a prestretched, long-fibre, cotton fabric, impregnated with rubber. In the case of the round belts, the fabric is wrapped around the core of rubber, as shown in the magnified cross section below.

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There is practically no stretch in an ACE Belt. It is impervious to moisture,—the cause of stretching in leather. Consequently, ACE Belts are endless, and are never used with hooks. Picture the maintenance time saved this way on a battery of machines, over a period of time, and you will realize why it is that so many plants have come to standardize on these ACE Belts.

**Now, ACE Belts have been still more improved.** A necessary substitution caused by the war, (as in so many other cases) has proved to be a genuine boon to the consumer. The synthetic rubber, Neoprene, was substituted for the pure compounded rubber formerly used. The Neoprene is proving tougher and better resistent to the internal heat caused by friction. This means longer life even than the ACE Belts that have gone before.

There is an ACE Belt for every Line Casting Machine Drive, as well as for the Ludlow Main Drive, Miller Saw and Mohr Saw,—round, "V" and Main Drive.

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## EASTERN NEWSPAPER SUPPLY

**9603 NORTHERN BOULEVARD** **CORONA, L. I., NEW YORK**


Alex Brooking Davis, Cincinnati, Ohio. Assigned to A. B. Dick Company, Chicago, Ill. Application May 19, 1941. 11 claims.

2,385,737. TEXTILE PRINTING COMPOSITION which can be used for the printing of griege goods, i.e., any fabric that is not bleached or finished and has natural fats present. It contains from 2 to 10% of terpene ether. An example of a typical formula is: Oil modified alkyd resin, 18.28%; chlorinated rubber (Parlon), 2.71%; morpholine, 0.23%; hydrogenated petroleum naphtha (Solvesso No. 3), 8.59%; hydrogenated petroleum naphtha (Solvesso No. 2), 10.55%; terpene ether (Terpesol No. 3), 6.96%; cobalt nuodex, 0.84%; water, 47.25%; high flash naphtha, 2.71%; and pigment, 1.88%. Invented by St. Clair Smith, Stamford, Conn. Unassigned. Application November 8, 1940. 6 claims.

2,385,765; 2,385,766. TEXTILE PRINTING EMULSIONS, as well as textile softening and waterproofing agents, are disclosed by these two patents. The first shows agents using the 2-alkyl or cycloaliphatic 4,6-diamino-1,3,5-triazines, generally known as alkyl guanamines, when the alkyl group contains at least 7 carbon atoms. The second invention is based on the discovery that the softening and waterproofing properties of the guanamines are not necessarily limited by the presence of a long alkyl chain or cycloaliphatic group on the 2 carbon atom, but that 1 or more substituent groups totalling 7 carbon atoms may be located at any point about the guanamine nucleus with effective results. Invented by Jack T. Thurston, Cos Cob, Conn. Assigned to American Cyanamid Company, New York, N. Y. Application August 30, 1941. 16 claims and 3 claims, respectively.

2,385,788. PRINTING INK SOLVENTS which have high dissolving power for resins and oils, components in preparing synthetic waxes and resins, and intermediates for drugs, bactericides and cosmetics. They are acid- catalyzed, addition-rearrangement products of water and crystalline polycyclopentadienes having two double bonds and one to four endomethylene cycles per molecule. The products are reacted with acetic and oxalic acids to form esters useful in the plastic arts. In one example, a mixture of dicyclopentadiene and aqueous 40% sulfuric acid is stirred, after which the oil layer formed is washed successively with hot water, soda, and hot water again. Oil is then dried and distilled. Three companion patents, Nos. 2,385,787, 2,385,789, and 2,385,790, are not here reported because the products of those patents are not said specifically to be useful as printing ink solvents. Invented by Herman A. Bruson, Philadelphia, Pa. Assigned to The Resinous Products & Chemical Company, Philadelphia Pa. Application February 20 1943. 8 claims.

2,385,793. PRINTING INKS FOR POROUS STOCK such as that used for newspapers, telephone books, etc., eliminate smudging, offsetting, and strike-through and permit the use of thinner, cheaper paper. Improvement consists in using an aqueous dispersion of a trialkylol amine soap of talloil as the pigment vehicle. One formula gives the following proportions: talloil, 7.7%; talloil pitch, 12.2%; triethanolamine, 9.2%; water, 57.0%; carbon black, 11.8%; and methyl violet, 2.1%. Although large proportions of water may be used in the compositions, the inks transfer properly in the ink distributing systems and to the type, and all filling of the printing plates is eliminated. Invented by Everett F. Carman, Rutherford, N. J., and Walther Reil, New York, N. Y. Assigned to Interchemical Corporation, New York, N. Y. Application February 7, 1942. 3 claims.

2,385,885. DISCHARGE PRINTING OF CELLULOSE ACETATE. Both white and illuminated discharge prints may be obtained in a single operation with alkaline discharging agents, such as the sulfoxylate formaldehyde of barium, on textiles dyed with azo dyes prepared by diazotizing 2-cyano-4-nitro-6-brom-aniline and coupling the diazotized amine with 2-dihydroxyethyl-amino-4-acetylamino-anisole. The discharge paste having 10 parts sodium sulphoxylate formaldehyde, 10 parts sodium thiocyanate, 45 parts supertex gum, and 35 parts water will, when printed onto the dyed fabric, give a sharp white design. Other pastes, in which vat colors are incorporated, may be used in the same printing process to give a multicolored effect. After printiag with the discharge paste, fabric is dried and passed through an ager so that the background color will be acted ugon by discharging agent and the color destroyed. Fabric is then washed to remove the decomgosition products, the vat dye is oxidized, and fabric washed again and dried. Invented by George W. Seymour and Victor S. Salvin, Cumberland, Md. Assigned to Celanese Corporation of America, Corp. of Delaware. Application February 28, 1942. 14 claims.

2,385,920. PRINTING INKS, as well as coatings for metal, glass, paper and textiles are prepared by variations of the method shown in this invention. A claimed coating comprises a film of a suspension of finely divided thermoplastic organic plastic material in suspension in an organic liquid medium which is non-solvent for the plastic, the medium containing a dissolved compatible plasticizer for the plastic, the liquid medium being in a ratio of 30% to 90% and the plasticizer being in a ratio of 25% to 100%, all based on the plastic content of the suspension. Inks are prepared by suspending a very finely divided thermoplastic plastic such as ethyl cellulose in a non-solvent for the plastic, together with a plasticizer. Carbon black, in amounts of 10% and up, depending on plastic content, and drying oils may be added. The ink, with enough non-solvent to give proper fluidity, is applied to news stock by conventional presses. The porous paper immediately absorbs much of the dispersing liquid, leaving the particles of plastic adhering to the paper in the desired pattern. The print is quickly passed over hot rolls to rapidly evaporate the solvent and to fuse down the plastic into adherent homogeneous state on the paper. Paper is then cooled by blasts of cold air. Drying of the film is very rapid—at the most it requires but a few seconds—and blurring is reduced. Invented by John D. Jenkins, Milwaukee, Wisconsin. Assigned to Pittsburgh, Plate Glass Company, Allegheny County, Pa. Application December 19, 1941. 8 claims.

2,386,421. METHOD OF PREPARING NEUTRAL SHELLAC SALTS. Inks, photoengraving solutions, adhesives, etc., prepared from aqueous alkaline solutions of shellac are improved by using the product of this invention, which is a stable, free-flowing powdered derivative of refined and bleached shellac which does not sinter or become insoluble on storage at room temperature. It is prepared by exposing finely ground refined bleached shellac to the moist vapor of a volatile organic amine or alkali until a shellac salt of the amine or alkali is formed. The salt is then aerated to remove moisture and unreacted amine or alkali. Invented by Henry Hall Bassford, Jr., Brooklyn, N. Y. Assigned to U. S. Shellac Importers Association, Inc., New York, N. Y. Application May 15, 1942. 3 claims.

2,386,599. AZO COMPOUNDS USEFUL FOR DYEING OR PRINTING TEXTILES including organic derivatives of cellulose, wool, silk and nylon, are prepared, in one example, by diazotizing .1 gram mole of 1-amino-2-hydroxy-4-nitrobenzene in the usual manner. The resulting cyclic diazo compound is recovered by filtration and washed with water. .1 gram mole of 1-(beta-hydroxyethyl-4,5-dihydroxyamyl-) amino-3-methylbenzene is dissolved in an acetic acid solution and cooled to 10° C. The diazonium compound is then added, mixture is poured onto ice and water, and the precipitated compound recovered by filtration, washed, and dried. Compound is then ground to a paste in the presence of a sulfonated oil, soap, or other dispersing agent. Invented by Joseph B. Dickey and James G. McNally, Rochester, N. Y. Assigned to Eastman Kodak Company, Rochester, N. Y. Application April 22, 1943. 10 claims.

2,386,606. PROCESS OF TREATING COMPLEX COMPOUNDS CONTAINING A SIDE ISOPROPYL GROUP AND PRODUCTS THEREFROM. Stable vehicle in printing inks and a starting material for dyes, pharmaceuticals, artificial resins, etc., is 1-methylphenanthrene which can easily be nitrated, sulfonated, halogenated, subjected to Friedel-Craft reactions, and the like. It is prepared by heating retene in the presence of fuller's earth, silica gel, or similar catalyst, with refluxing. The dissolved refluxed material is dissolved in an organic solvent, and filtered. The filtrate is fractionally distilled in vacuo, and the fraction distilling at 155° C at 1 mm. pressure is separated, from which a solid is crystallized. Invented by Torsten Hasselstrom, Savannah, Georgia. Assigned to G and A Laboratories, Inc., Savannah, Georgia. Application July 11, 1941. 6 claims.

2,386,646. PRINTING PASTES containing diazonium salts derived from ice color diazo components are prevented from thinning by the method of this invention. The diazonium salt is associated with an organic nitrogenous base soluble in aqueous mineral acids and containing at least one olefinic double bond or one acetylenic

triple bond for each 12 carbon atoms. In one example, 2.56 parts of the zinc chloride double salt of tetrazonium chloride derived from o-dianisidine, diluted with partially dehydrated magnesium sulfate so as to correspond to 29.8% of real base, are mixed with 0.2 part of N-allyl-N, N,N-triethyl ammonium chloride and the mixture is dissolved in 22.3 parts of water. This solution is intimately mixed with 75 parts of 2.5% carob bean gum, and the paste thus formed may be used for printing blue shades on cellulosic material which has been impregnated with arylides of 2-hydroxy-3-naphthoic acid. Invented by Frederic H. Adams, Bound Brook, Hans Z. Lecher, Plainfield, and William B. Hardy, Bound Brook, N. J. Assigned to American Cyanamid Company, New York, N. Y. Application July 5, 1943. 11 claims.

2,387,049. MODIFIED SHELLAC PRODUCT. Resin is prepared by heating a mixture consisting of shellac and urea, the urea in the mixture being at least one-fourth that of the weight of the shellac at a temperature of about 140° to 180° C. The resins are capable of yielding water resistant films from the solution in aqueous media and are suitable for use in certain types of inks, photoengraving solutions, paper sizes, etc. Pigments, such as titanium dioxide, carbon black, etc., may be used and extended with barium, talc, colloidal silica. Invented by Henry Hall Bassford, Jr., Brooklyn, N. Y. Assigned to U. S. Shellac Importer Association, Inc., New York, N. Y. Application May 15, 1942. 5 claims.

## Printing Presses and Equipment:

2,384,843. LITHOGRAPHIC MACHINE for printing a fabric or paper web in a number of different colors. The respective impressions to appear in a pattern on a web are applied to several non-continuous offset printing rollers aligned in a horizontal plane. A portion of web is then positioned in a horizontal plane parallel to the direction of travel of the rollers. Relative movement between rollers and web transfers the impressions in register to web. Web is then fed forward to a position for printing another repeat and rollers are again passed over web to apply a further repeat in register with first repeat. Operations are continued until the desired number of registering repeats are applied to web. Invented by James Moore Lowe; Valleyfield, Quebec, Canada. Unassigned. Application May 15, 1943. 9 claims.

2,385,739. PRINTING ROLLS made from the products of this invention are easily cast and are stronger than the customary glue-glycerine compounds used for the purpose. Highly distensible molded rubber-like articles for various uses are made from a curing accelerator, 25 to 100 parts of a mixture of a halogenated hydrocarbon having a melting point between 20° and 153° C. and a fatty oil, and 100 parts of a polymeric derivative obtained by polymerizing chloro-2-butadiene-1,3 in the presence of sulfur. The polymer is plasticized until it has a plasticity number of from 0 to 30. Invented by Howard W. Starkweather, New Castle County, Delaware, and Frank N. Wilder, Woodstown, N. J. Assigned to E. I. du Pont de Nemours & Company, Wilmington, Delaware. Application June 1, 1940. 15 claims.

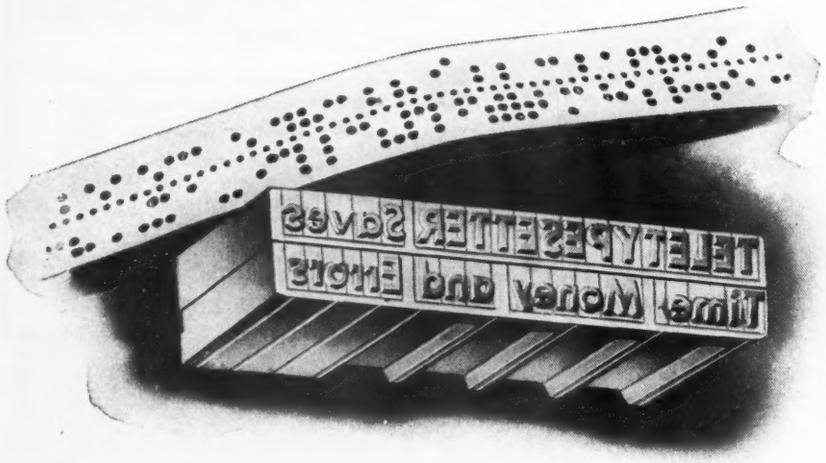
2,385,918. APPARATUS FOR EFFECTING CIRCUMFERENTIAL ADJUSTMENT OF PRINTING CYLINDERS of textile printing machines in order to obtain registration. Adjustment may be accomplished while cylinders are at rest or in operation. The transmission interconnecting the impression cylinder and its driving mechanism comprises a pair of internal gears concentric with impression cylinder. One of the gears is rigidly secured to driving mechanism and the other is rigidly secured to cylinder. Planet gears are in respective driven and driving engagement with the driving and driven internal gears. They are freely rotatably mounted about an axis of rotation eccentric to the pair of internal gears and are rotatable about an axis of revolution concentric with the pair of internal gears. Invented by Rudolf Heberlein and August Kunzle, Wattwil, Switzerland. Assigned to Heberlein Patent Corp., New York, N. Y. Application June 12, 1943. 6 claims.

2,386,029. MULTI-COLOR INTAGLIO WEB PRINTING MACHINE having a row of non-reversible intaglio printing units, a single reversible intaglio printing unit, and two feed roll stands arranged in a line. The roll stands are located one at each side of the reversible unit, between it and the adjacent non-reversible unit. A web may be run from the roll stand in either direction to and through the reversible unit, and from this unit to a selected non-reversible unit at either side. Thus one or more webs may be printed in multi-color on one or both faces. The web is fed finally from a non-reversible unit to a folder at one end. Invented by Adolph M. Zuckerman, New York, N. Y. Assigned to R. Hoe & Co., Inc., New York, N. Y. Application December 11, 1942. 4 claims.

2,386,214. CLAMP FOR ATTACHING AND TENSIONING A PLATE onto the plate cylinder of a lithographic or gravure printing press. The cylinder is provided with a gap in which the plate clamp is positioned radially inward of cylinder surface. An elongated housing is mounted in the gap, which housing has a longitudinal groove for reception of the opposite end of plate. A bar in the groove is adapted, when rocked transversely, to be wedged between one wall of groove and the plate backed by the other wall of groove. Interengaging means between the housing and the bar, on side of groove remote from its plate engaging wall, provide an abutment against which the bar may bear when it is rocked in a direction to increase plate holding pressure. Invented by Charles W. Harrold, University Heights, and Earl W. Curtis, Maple Heights, Ohio. Assigned to Harris-Seybold-Potter Company, Cleveland, Ohio. Application October 9, 1942. 16 claims.

2,386,962. ARRANGEMENT FOR PRODUCING OFFSET PRINTING FROM A LETTER PRESS or relief type form or relief printing surface. The form is quickly and easily set up and impressions produced without requiring extensive preliminary work, make-ready, or patching. It is adapted for incorporation in known types of flat bed or bed and cylinder printing machines. A pair of printing member supports are simultaneously operable in opposite directions. A flat relief type form and a flat transfer surface are mounted in spaced relation to one another on one of the supports, and a rotary offset surface and a rotary sheet carrying member are on the other support. Offset surface is successively engageable with form and transfer surface in the relative movement of supports to pick up an impression from the form and transfer it to the transfer surface. Sheet carrying member engages a sheet with transfer surface from which sheet picks up the impression. Invented by Charles L. Low, Lee Township, Allegan County, Michigan. Unassigned. Application August 7, 1943. 9 claims.

DESIGN 142,471. ORNAMENTAL DESIGN FOR A PRINTING PRESS that is about twice as wide as it is long so as to accommodate long rollers, width-wise. The pedestal of the press obviously houses some of the working parts. It is closed at the front and the back and open at the sides, thereby being in the form of an inverted "U" with an open tunnel running underneath the press from side to side. All gears and other rotating parts are enclosed in the casing, itself, or by circular dish-like cover plates attached with bolts, so that a clean, streamlined outline is obtained. Invented by Curtis S. Crafts, Oak Park, Illinois. Assigned to The Goss Printing Press Company, Chicago, Illinois. Application December 30, 1944.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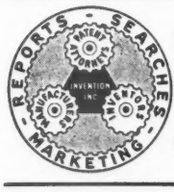
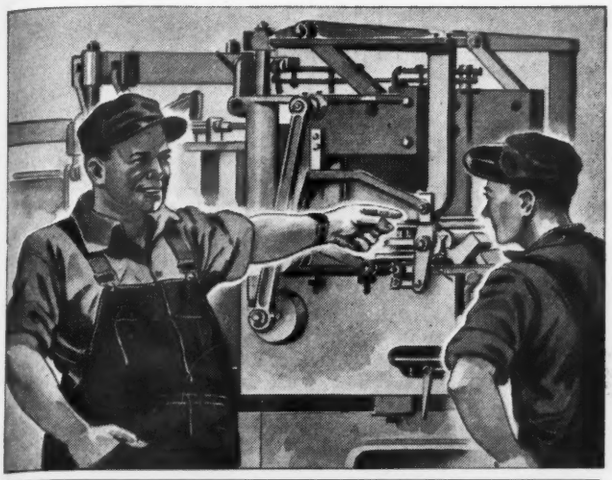



For Patent Research in the U. S. Patent Office, or a prompt estimate on any type of search, address INVENTION, INC., Munsey Bldg., Washington, D. C.


## Closes Two More Warehouses

Effective October 31, according to an announcement by A. E. Giegengack, Public Printer, the GPO warehouses at Dallas and Atlanta were closed and the personnel returned to Washington. This action will leave the Government Printing Office with warehouses at New York, Chicago and San Francisco and with a representative in St. Louis.



## POP GREETS THE KID WITH GOOD NEWS ABOUT WETTER NUMBERING MACHINES

★ It's great to have you back from overseas, Kid!

● It's great to *be* home, Pop.

★ ... and to have you back again at the shop. Boy, we've got a rush of orders—especially for jobs that require numbering—and we sure can use you.

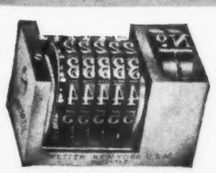
● I'll bet you can use some new Wetter Numbering Machines, too. The old ones must be due for "honorable discharge."

★ No sir! Those Wetters are still in good shape. Got a lot of service in 'em yet. You know *me* for keeping them clean and well oiled! But I did order new ones, though.

● Good! We always could "number better with Wetter." When do we get 'em?

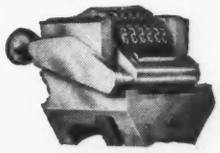
★ Well, we gotta wait our turn. We don't need a priority any more and the Wetter people are working their heads off filling a backlog of standing orders that piled up when priorities were on. Later they'll fill new orders in the sequence they receive 'em. That's only fair. And our's will be right up at the front of the line.

**For early delivery of Wetter Numbering Machines you are urged to place your order NOW. Orders will be given attention according to date of their receipt.**



Wetter Nonpareil
One of many models

(54)



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**AMERICAN TYPE FOUNDERS**

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for mechanical and production executives to rid themselves of many petty annoyances. It isn't necessary to put up with them. For instance, one annoying thing is to have the "old man," the advertiser or the advertising department want to know why cuts are missing from or out of position in advertisements. To insure smoother operation in your composing room, use ***Booth's Zink Cut Cement.***

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## RUBBER COMPANY
**MAHONING BANK BLDG., YOUNGSTOWN, OHIO**

## PEEPS INTO FUTURE

(Continued from Page 30)

method of calendering newsprint to permit finer screen printing is on the way. A process of finishing newsprint for offsetting must, and will be, developed.

Better inks are a certainty. Some of the fluorescent and luminous inks we have developed for bombing tables and night-reading by fliers can be adapted to theatre program printing, posters, signs, and so on. There is a wide field for their use.

### Modern pH and Chlorine Control

A NEWLY revised edition of the Taylor combination handbook and catalog, *Modern pH and Chlorine Control*, contains simple technical explanations of the meaning of pH control, specific discussions of the application of pH control to 35 industries including offset-lith fountain solutions when printing from zinc and aluminum plates, electroplating and electrotyping, pulp and paper; precautions to be observed in making determinations, and descriptions of all Taylor outfits. Size 5 in. by 7¾ in., 87 pages and cover. A copy may be obtained free by writing to W. A. Taylor Co., direct, or *Printing Equipment Engineer* will be glad to pass along your request.

### Printing Supplies Catalog

Eastern Newspaper Supply has published a new catalog in brief form, consisting of 28 pages and cover, 3⅞ in. by 9 in. In it are described in practically one-line form the supplies and tools handled by this firm for use in the stereotype, composing, engraving and pressroom departments of the printing plant. An alphabetical index provides easy location of the items handled by this firm. Copies may be obtained from Eastern Newspaper Supply, 9603 Northern Blvd., Corona, Long Island, N. Y.

## San Francisco Warehouse Closed

The Government Printing Office's San Francisco warehouse, A. E. Giegengack, Public Printer announces, closed October 31. Julius Saxe has been in charge of G.P.O. activities in the San Francisco area. In all cases, G.P.O. employees affected will be returned to the Washington office for assignment to new duties, and contracts made in the future in areas of the warehouses scheduled for shutting down will be directed and supervised from the G.P.O. headquarters.

### Sprayer Gun Wax and Process Color Wax

W-R Sprayer-Gun Wax and W-R Process Color Wax are two products announced by the Wax Refining Co.

Both products are used for the same purpose—to prevent offsetting, mottling, picking and sticking and to prevent inks from crystalizing. These waxes are designed to help the printer overcome messy, double-pointed jobs.

The Sprayer-Gun Wax is prepared for those printers who have sprayer gun

equipment for its application to the printed sheet. Manufacturer claims product is colorless, odorless and harmless and that it is practically essential where gloss inks or overprint varnish is used. It is also claimed to be good on any job.

Process Color Wax is intended to be mixed directly into the ink—a teaspoonful to each pound—where sprayer gun equipment is not used.

Both of these products, it is stated, may be used with all colors and black, and will prevent offsetting and assure sharp printing on any type of printing presses.

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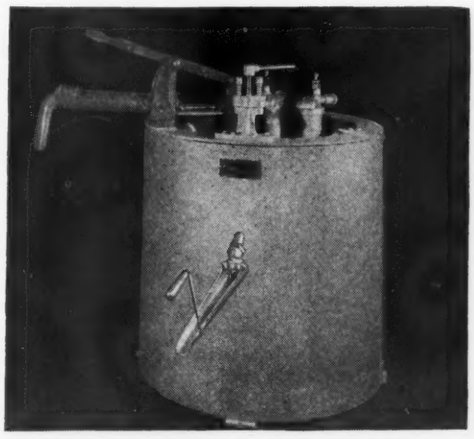
# KEMP



## IMMERSION HEATED MELTING UNITS

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***KEMP STEREOTYPE POTS FOR MELTING LIMITED QUANTITIES OF METAL***

This specially designed KEMP stereotype pot will satisfactorally meet the needs of the small newspaper or foundry. Thoroughly efficient in its adaption of the immersion combustion principle where there is less heat waste, a more accurate temperature control, and less dross formation due to the blanket of hot flue gases covering the metal. Maintenance expenses are thus reduced to a minimum. The melting of all soft metals is accomplished quickly, economically, and effectively. Constructive details for the protection and convenience of the user improve working conditions, and will increase the efficiency of the plant.

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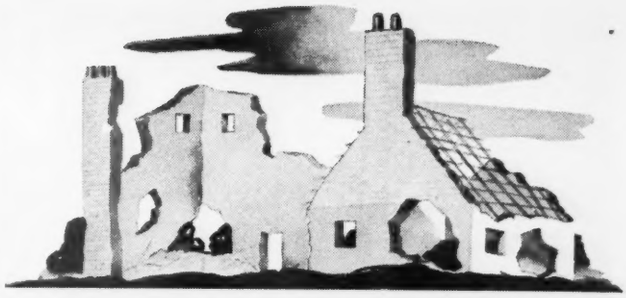

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Mr. Printer the same factors will win in the competition you will be facing. The shops having the more productive machinery will get the business.

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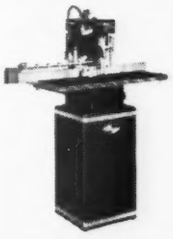
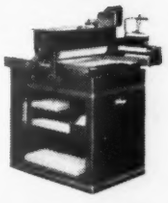


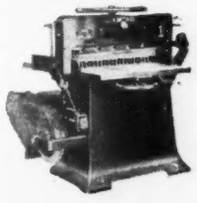
***Challenge Paper Drills Speed Up Production***

All have a motor operated drill head moved through the paper by hand lever, foot power or electro-hydraulic mechanism.



***Challenge Proof Presses Make Good Impressions***

The Series E Proof Press operates like a cylinder press. Large Ink Plate. Removable galley plate. Handy all-steel stand.



***Challenge Paper Cutters Safe, Accurate Cutting***

All models of Diamond Power Cutter, Challenge Pony Cutter, and Challenge Lever Cutter are of rugged construction and are easy to operate.

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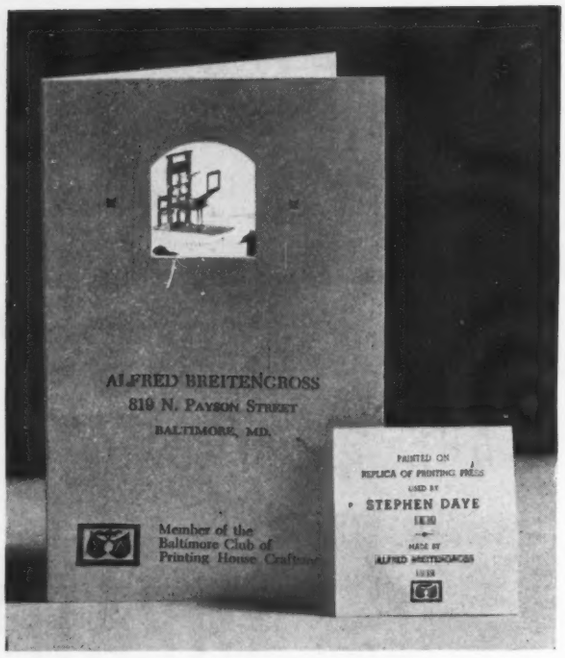
Challenge

**THE CHALLENGE MACHINERY COMPANY**

GRAND HAVEN, MICHIGAN




**This little folder with die-cut cover, has been printed by Alfred Breitengross, Baltimore printing instructor. It is commemorative of the final deposition of the miniature model of the famous Stephen Daye press, made by him, and which is now on permanent exhibition at Smithsonian Institute Washington, D. C. Illustration of the pint-size press can be seen through the die-cut cover.**

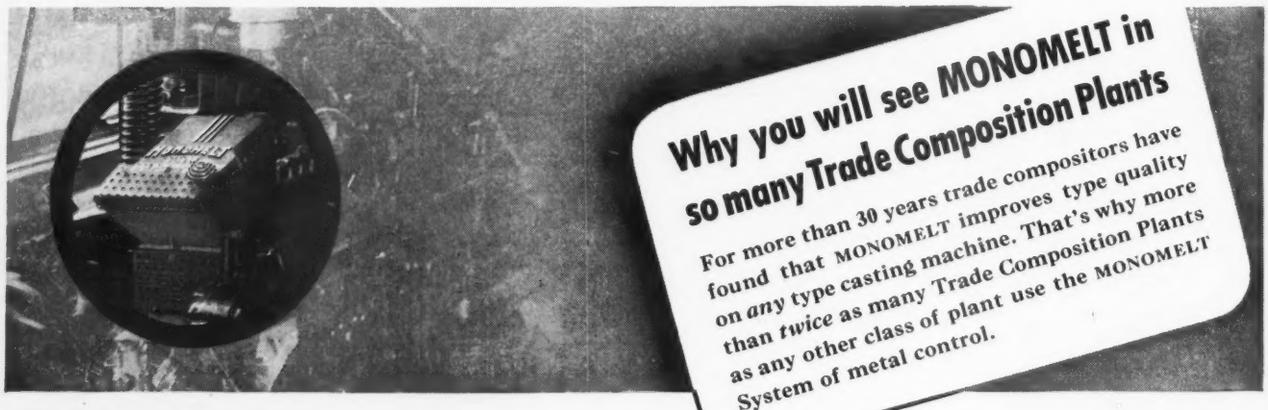
## Pint Size Stephen Daye Press Now at Smithsonian Institute

EXECUTIVE members of the International Craftsmen's Association will remember the diminutive model of the original Stephen Daye Press made with loving care by Alfred Breitengross. Breitengross is a long standing member of the International Association of Printing House Craftsmen, Inc. He is instructor in printing at St. Mary's Industrial Institute, Baltimore, Md. It is one of the objectives of Al to teach character to the boys who come under his tutelage as well as printing techniques. He, together with Mrs. Breitengross, who passed away two years ago, have been perennial convention attenders. For many years, Breitengross has been sergeant-at-arms at Craftsmen's annual conventions.

The replica of the Stephen Daye press which is visible through the die-cut peephole of the cover of the folder shown in the accompanying illustration, was made of brass. Its dimensions are 7 in. by 3½ in. by 5 in. The press actually prints (see specimen printing in lower part of the accompanying illustration). Sheet size is 1½ in. by 1½ in. The press is complete in detail, being supplied with frisket, rolling bed, and the platen depresses against the form by movement of the hand lever between the columns. The press model has been exhibited before Craftsmen's club meetings in many parts of the country, including Baltimore, Cincinnati, Chicago, Cleveland, New York, San Francisco and St. Louis.

The press is now on permanent display in the Graphic Arts Division of the Smithsonian Institute, U. S. National Museum, Washington, D. C.

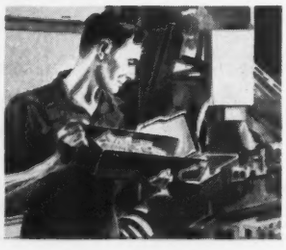
The original Daye press, the folder tells us, was brought from England in 1638, the first printing press north of Mexico, on this continent. It was set up by Stephen Daye in Cambridge, Mass. In 1639 the first work printed was *The Freeman's Oath*. In 1640, the first book printed in America in English was *The The Bay Psalm Book*. The original press is now on exhibition in the building of the Vermont Historical Society.

**Why you will see MONOMELT in so many Trade Composition Plants**

For more than 30 years trade compositors have found that MONOMELT improves type quality on *any* type casting machine. That's why more than *twice* as many Trade Composition Plants as any other class of plant use the MONOMELT System of metal control.

# Monomelt Improves Quality for Printers and Publishers, Too!



Hundreds of printers and publishers, as well as the majority of trade composition plants, have found that the MONOMELT System of metal control improves the quality of their type and at the same time reduces composing room costs.

Feeding dead type metal directly into the MONOMELT hopper, instead of melting and pigging, not only reduces handling to a minimum but also cuts down the drossage loss of vital alloys . . . holds metal in better balance longer. Molten metal, not cold pigs, is fed directly into the melting pot allowing 25 to 50 degrees lower casting temperature. Machine troubles (squirts, fouled throat, etc.) are practically eliminated and the quality of type is definitely improved.

Investigate the MONOMELT System of type metal control and find out why the majority of trade composition plants throughout America, where utmost quality is paramount, depend on MONOMELT.

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Glider
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The Saw with the Ball Bearing Table!
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HAMMOND MACHINERY BUILDERS—1604 DOUGLAS AVENUE, KALAMAZOO 54, MICHIGAN • *Eastern Branch:* 71 West 23rd St., New York 10, N. Y.

# Today's Proof Press Outlook

By E. O. VANDERCOOK

*General Manager,*
*Vandercook & Sons, Chicago.*

THE urgency of resuming volume production of equipment is especially cricitcal in the Graphic Arts industry, where the addition of new, or replacement of old equipment has become a serious factor with many. Here in the Vandercook organization, we are keenly aware of this great need, not only through our long and close contact with the industry, but also from the hundreds of letters received during the war and since from printers and platemakers all over America. Among these, of course, were many requesting general information; others were interested in details of new equipment being planned for post-war production; but, by far the greatest majority were concerned over how quickly after the war proving machines would again be available.

The production of proof presses is directly dependent upon a sufficient stock of beds, cylinders, gears and other necessary parts on hand in ample quantity to maintain a steady flow of materials on the assembly line. This has been our biggest task since the war ended. We began shortly after VE Day and stepped up our efforts still more following VJ Day. And, as a result, our stock of parts and materials on hand has almost reached the point where assembly can begin.

In order to convey a better understanding of this all-important question of stock, it might be well to consider what is perhaps the most critical part that goes into a proof press, namely, the bed. These castings represent the heavy, one piece beds so necessary to insure permanent accuracy in Vandercook proof presses.

Procurement of bed castings, and machining them, has always been a bottleneck with us. We are doing everything we can to build up a stock of these beds in order to insure that when our assembly line starts, it will not be held back because of a shortage of beds. Five months ago, we ordered a new $35,000 high-speed planer to speed up the production of our proof press beds. This planer is scheduled for delivery shortly after the first of the year. Our plant is operating two shifts, 100 hours per week, 100% on the production of parts for our proof presses. Present estimates are that by December the 400 ft. Vandercook assembly line will start to function, and finished presses will be available in January of next year.

During the war, we have been working on the new No. 604 Vandercook Wet Proving Machine to as great an extent as possible, without interference to our war production. This new model will ink, frisket and print four colors with a lapse of time of only 3 sec. between the first and last colors. The plates are inked immediately ahead of the impression because if there is any appreciable lapse of time between inking and printing, a true proof of the plate will not be obtained. The press is operated at a fixed standard speed, since any variations in printing speed will give different results. Register is not a problem as the sheet is fed only once, and registered for margins only. The Vandercook automatic register system is used to position the plates on the plate bases in exact register.

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## Completes 5-Year Financing Program

R. Hoe & Co., Inc., has completed arrangements with the Bank of New York for a term loan of $750,000 and a revolving credit of $1,250,000 both extending over a period of five years, it is announced by Harold G. Cutright, President of Hoe.

The term loan will enable the company to retire its presently sold outstanding funded debit, consisting of $775,000 of first mortgage 5% bonds. The revolving credit has been established for the purpose of providing the company with additional working capital, if needed, Mr. Cutright stated.

Interest on the term loan will be at the rate of 2½% per annum, with both a fixed and contingent sinking fund effective the second year of the loan. Under the contingent sinking fund, provision has been made for a payment equivalent

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to 25% of the company's net earnings in excess of $200,000 a year.

All funds borrowed under the revolving credit will bear interest at 1% over the Federal Reserve rediscount rate for commercial paper, with a maximum rate of 3% and a minimum rate of 2%.

Previously, the company has had a "V-T" loan agreement in the amount of $3,000,000 with the Bank of New York under which it actually had borrowed the sum of $500,000 This loan has been paid and the "V-T" loan agreement terminated.

In announcing this financing program, Mr Cutright stated that notwithstanding the fact that on V-J Day the company was in full war production, it was able to completely reconvert its plant facilities and resume the manufacturing of printing press equipment on the day after Labor Day He also said that the Company's unfilled orders for printing press and auxiliary equipment were the largest in its history.

# BOOKS

RECEIVED

## *How To Handle Negotiations for Collective Bargaining*

MECHANICAL and production executives in the printing industry (and there are many) who expect to or have been handling labor union negotiations will be interested in knowing about the portfolio report entitled *How To Handle Collective Bargaining Negotiations*, published by National Foremen's Institute, Inc. Before going further with this review, it should be stated that the text is written from the standpoint of the mass production industries. Much of the material, therefore, would not be applicable to the highly unionized printing trades. The advice in general, however, is prepared in common sense manner and is useful to anyone in the printing industry in negotiating scale agreements as a representative of management. One of the most important features of the book is the advice about the negotiator's attitude and conduct in scale meetings.

*How To Handle Collective Bargaining Negotiations* is based on an exhaustive survey which was conducted by the Institute for a client. The material was checked by a panel of labor relations experts and the final draft was edited by the staff of the *Executive's Labor Letter*. Summed up briefly, it is a tough, militant report indispensable to the conduct of successful labor negotiations.

In the seventeen sections are discussed not only the fundamentals of collective bargaining, but each step in the entire negotiating procedure is presented for the guidance of persons participating for management.

*How To Handle Collective Bargaining Negotiations* — Published by National Foreman's Institute, Inc., Deep River, Conn. Price $5 per copy, f.o.b. shipping point. Multigraphed in black and red on rag paper, 42 sheets, size 9½ in. by 11½ in. Bound in maroon color gold stamped Multo binder. Order direct from the Institute.

## *SKF Publishes 270-Page Book on Bearing Engineering*

A 270-PAGE technical book entitled *Ball and Roller Bearing Engineering* has been published by SKF Industries, Inc., to serve as a fundamental text on all phases of bearing applications to industry.

The book, a bound volume containing some 900 drawings and tables, begins with a technical description of common bearing types and continues through nine chapters of fundamental engineering studies. Both radial and thrust bearings are discussed comprehensively in Chapter I together with data on dimensional proportions running accuracy and tolerances of each type.

"Forces and Motions in Bearings," the second chapter, is devoted to theory and calculations on such subjects as the nature of rolling resistance, friction torque, friction coefficients, stresses and deformations, load distribution, motion and inertia. Other chapters deal with studies in the carrying capacity of ball and roller bearings, bearing selection, design of bearing applications, mounting and dismounting, lubrication and maintenance and bearing failures. The final chapter is made up of tables, conversion values and a description of symbols and abbreviations.

Dr. Arvid Palmgren, author of *Ball and Roller Bearing Engineering*, is a world-known authority in his field. Winner of engineering academy awards for his research in bearing fatigue phenomena and the development of methods of calculating their life, Dr. Palmgren has spent nearly 30 years in his field of bearing engineering.

First copies of the book will be sent by SKF to the heads of leading corporations, technical schools and colleges and libraries in principal U. S. cities. Later editions will be sold at cost by the Company for students and others interested in bearing studies.

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*Mechanical and production executives are invited to send to the editor of* PRINTING EQUIPMENT ENGINEER *descriptions of mechanical or production helps which they have devised and which would be of interest to other executives.*

**STEREOTYPE PERFORATED GUMMED PACKING FELT**

**Important where considerable shrinkage is employed**

**Manufactured under Patent No. 1,967,444**

**Is More Flexible • Forms with the Mat • Dries Faster • Sets Instantly**

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Now, more than ever, Mohr saw owners appreciate the important savings in time, made possible by this automatic slug saw. Slugs are cut to any desired length as they are ejected from the linecasting machine. 100% automatic operation. Accurate and speedy.

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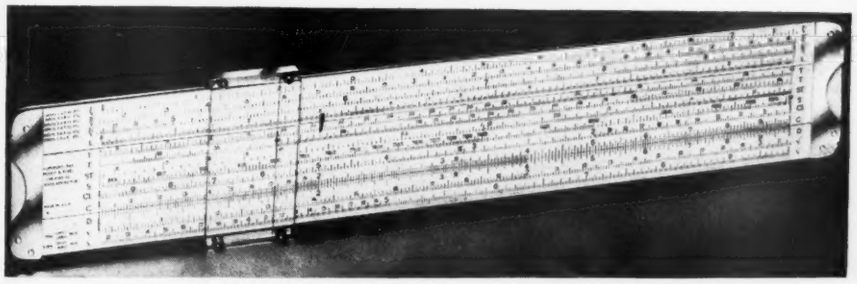


View of Pickett & Eckel Deci. Point Slide Rule. With it four readings may be obtained from one setting of hairline—Cube root, logarithm, result, square root. Constructed of Dowmetal with scales inscribed on flat white plastic.

### P. & E. Deci. Point Slide Rule

THE Deci. Point Slide Rule, announces Pickett & Eckel, is manufactured of Dowmetal. This metal, states manufacturer, is not affected by climatic conditions of heat, cold or moisture and can be machined to close tolerances. This permits the use of self-centering "optical groove"—a type of tongue and groove construction used in optical instruments because it prevents side play and binding. The core is surfaced with a flat white plastic on which the scales are inscribed.

Manufacturer states also that the highly simplified arrangement of scales greatly facilitates computation so that persons of limited mathematical knowledge can evaluate and point off problems containing cube root, square root, logarithmic and trigonometric factors.

Claims made are as follows: (1) Places decimal point mechanically up to 19 digits or zeros; (2) Same setting of hairline for result also gives readings for cube and square roots, and logarithm of result; (3) Gives 30 in. scale accuracy for cube root; (4) Gives 20 in. scale accuracy for square root.

The Deci. Point Slide Rule is 12⅛ in. long and 2 in. wide. Furnished with manual, typical problems and carrying case. Further information may be obtained from Pickett & Eckel direct or in care of *Printing Equipment Engineer*.

### Booklet Appropriately Produced by Letterpress Process

Ben Granger. Vice President and General Manager of the St. Petersburg (Fla.) Printing Co., sends to *Printing Equipment Engineer* a specimen copy of brochure entitled *Ten Tears of Electric Growth*, which his company executed for the Florida Power Corporation and the Georgia Power and Light Co., Consolidated.

The booklet consists of 32 pages with interleaved glassine cover. It measures 9 in. wide by 8 in. high.

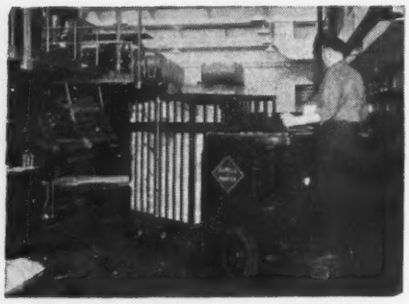
Our purpose in mentioning the booklet is that the layout and printing process (letterpress) have been utilized to the fullest extent in producing a piece of printed matter which commands attention from the reader. A considerable number of the pages represent nothing more than statistical tables. The tables have been broken down by years upon one subject only. The figures in the tables are set in 12 pt. for easy reference. All of the pages in the booklet are severely plain, but there is an attractive quality about every page which invites reading.

Quite a number of the pages appear in full page graph or chart form. The distinguishing characteristic of these graphs is that a little symbolic figure (whom we might dub *Lightning Sam*) is posed in an attitude expressive of each chart upon which he appears.

### H. H. Heinrich, Inc. Moves

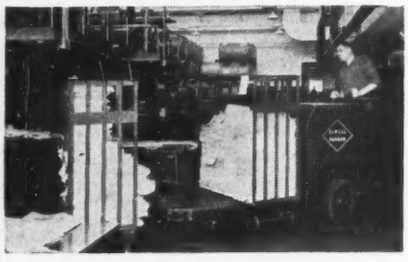
H. H. Heinrich, Inc., has moved back into its prewar headquarters at 200 Varick St., New York 14, N. Y. Telephone number is Worth 4-9204-5. For the past several years the firm has been located at H. H. H. Farm, Andover, N. J.

The firm handles "Matador" bag machines, multi-color printing presses for aniline and pigment inks and precision rubber plate and mold equipment.



**Light Steel Racks and Electric Truck For Handling Printed Matter**

RACKS made from light steel shapes welded into a rigid structure and mounted on wheels have been devised for use by a large publishing house for handling heavy loads of printed paper stock as fast as it comes off the press with an Elwell-Parker low-lift power truck. The racks are about 2 ft. wide, 4 ft. long, and 4 ft. high, and are open at top and bottom for easy loading and unloading.



They have two sets of wheels, mounted at both ends of steel struts.

In use, the truck's platform is pushed under the side of the rack, between the two sets of wheels. Either one or two loaded racks, weighing up to a total of 2 T., may be picked up on the truck platform and transported quickly in printing plant or stock room.

## Great Lakes Conference

(Continued from Page 32)

management, circulation managers and mailing room executives be properly apprised of the Great Lakes Conference which is to be held in Indianapolis next year.

It was also forcefully expressed that the mailing room should be under the supervision of the mechanical superintendent.

### "My God, Where's the Mailing Room?"

Mr. Martin, in addition to observing that the mailing room is the forgotten department, remarked that "when a new building is finished, management looks around and says 'My God! Where's the mailing room?' " He stated that presses have been speeded up but mailing room technique has remained stationary. It is a peculiar circumstance that the red button choke from the mailing room had not been eliminated. He asserted there is no more fertile field for new ideas, methods and equipment than exists in the mailing room. The mailing room has been in a rut for years.

Wilford Coddington, Composing Room Superintendent of the Youngstown *Vindicator*, observed that because of mailing room technique it is necessary to slow down press runs to 24,000 per hour just because the mailing room can't handle a faster flow of papers.

Charles Kirk, Stereotype Superintendent of the Detroit *News*, wondered if some subjects being discussed at the Great Lakes Conference haven't been discussed at circulation managers' meetings. It was unanimously decided to invite circulation managers, business managers and mailing room executives next year in order to make attendance at the mailing room clinic worthwhile.

D. C. Rowley, Publisher of The Ashtabula (O.) *Star-Beacon*, discussed an automatic single wrap machine which had been developed by the Crawford Manufacturing Company in Meadville, Pa.

E. M. Happer of the Cleveland *Plain Dealer* mailing room discussed City Delivery Systems for metropolitan newspapers.

At this time Thomas Martin took the platform and explained the improved Gneuhs mailing bench, a rough model of which was exhibited on the platform. He asked all executives to gather around the model and he would explain it for the benefit of everyone present at the meeting. Mr. Martin explained that ordinarily in the case of a 36-page paper the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*New Products Division*
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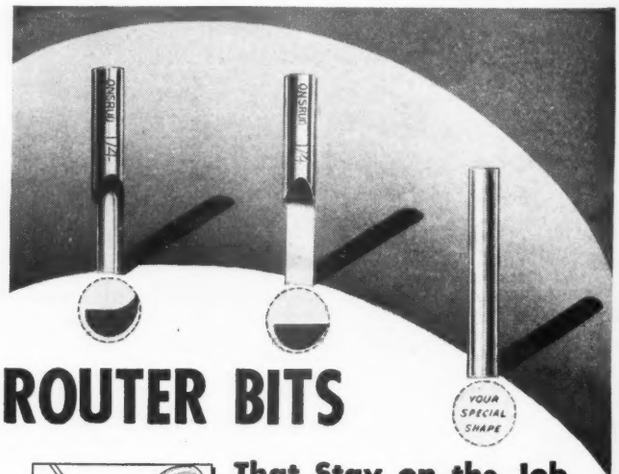
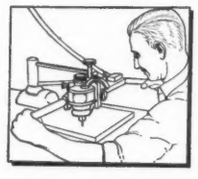
*60 YEARS OF PAPER MAKING SKILL*




ROUTER BITS



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Onsrud highspeed steel Router Bits are famous for their long life. Made of special alloy steel, the edge stays sharp. Cuts smoothly . . . lasts longer . . . minimizes tool changing and resharpening troubles. Made in all standard sizes and types. *IMMEDIATE* delivery . . . order one or a dozen now. Send old router bit as sample and we'll match it. Write for Router Bit Folder and prices.

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## To
## Typesetting Machine Owners:

Now that the war is over, we strongly urge those who order motors,—whether **CUSHMAN OFFSET** or any other,—to specify THREE PHASE.

Three Phase motors have no brushes. This means no flying carbon to cause motor trouble, and longer life to any motor. On a battery of machines the servicing factor alone is a considerable item in the course of time, not to speak of interruptions to production.

If you have a three phase line in your plant, it will pay to extend it to accommodate any new equipment you are installing.

*Cushman Motor Division*

**LINOTYPE PARTS COMPANY**

**WEATHERLY, PENNA.**

MAYBE YOUR GIRLS WOULD SMILE TOO —IF THEY WERE USING
SYNTRON
"Vibrating"
PAPER JOGGERS
We'll be glad to send you literature
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577 Lexington, Homer City, Pa.


average mailer working in front of an escalator coming from the pressroom had to lift three tons of paper per hour. By the use of the Gneuhs device the most a mailer would be compelled to lift would be one and one-half tons per hour, and in some cases the physical lifting operation would be eliminated entirely on the part of the mailer through the use of this device. In the average plant one mailer can bundle and tie the products from one press through the use of this device; as at present operated, one man pulls the bundles from the conveyor in 100-paper lifts and two men do the wrapping. A full explanation with illustrations respecting Mr. Gneuhs' invention will appear in the Great Lakes Conference Minutes to be published later.

## *Stereotype Session*

THE Stereotype session got under way Monday morning with Lester Yeager, Production Manager of the Indianapolis *Star* as Chairman.

The first question which was presented for discussion was related to why some stereotype plants feel that they do not receive any benefits from vacuum casting box equipment. George Fuller, Stereotype Superintendent of the Cleveland *Press*, and E. A. Rehm of Wood Newspaper Machinery Corp., both concurred in the opinion that the manifolds should be cleaned at least twice a month for best results.

The next topic for discussion was related to molding blankets. It seems that H. S. Devine, Mechanical Superintendent of the Newark (O.) *Advocate*, has been experimenting with a fibre glass creeper in a molding combination in the stereotype department. The report is that by use of the fibre glass creeper on a rolling machine, the same results are secured in molding as with direct pressure equipment. To illustrate the effectiveness of the creeper, it was stated that with a cork and board combination there is 3/16 in. stretch in the mat but when a fibre glass creeper is added to this combination there is no stretch in the mat. There is also 1/32 in. less in shrinkage of the mat when the creeper is used. The only difficulty at the present time is that the creeper will not last over twelve or fifteen molding operations. In any event, the utility of the creeper is still in a highly experimental stage.

Frank Duncan, Mechanical Superintendent of the Portsmouth (O.) *Times* stated that he had secured beautiful molds in the mats but couldn't get depth without cutting through the mat. He did state, however, that in his opinion, the use of the creeper provided better molding of the type.

The topic of direct pressure molding was presented by Chairman Yeager who called on George Fuller, Stereotype Superintendent of the Cleveland *Press*, to discuss direct pressure molding. Briefly, Mr. Fuller said that the principle of direct pressure molding is correct on account of the uniformity of molding results. The molding depth is not as deep as with roller molding but sharper molds are secured in the mats. He also asserted that he did not feel that cork was of any value in direct pressure molding. He had conducted a number of experiments with hard and soft corks but failed to secure good results. Said he "when you put pressure on cork, the cork flows in all directions." At the present time Mr. Fuller said he had been using a molding combination consisting of three makes of blankets, all of which are 0.062 in. thick. This combination consists of two Vulcan foundation blankets, one New England foundation blanket and two Tingue-Brown waterproof blankets. The idea of the Tingue-Brown waterproof blanket is to put it next to the mat so that the moisture from the mat will not permeate the molding combination. Mr. Fuller also said that with a double end direct pressure molding machine, forms could be handled faster than on two matrix rollers. He stressed the fact that in direct pressure molding it is necessary to have good chases.

Jack Chryst, Stereotype Foreman of the Indianapolis *Star*, complained there seemed to be irregularity in the ability of zinc cuts to withstand molding pressures. He said some of the zincs stretch as much as ¼ in. After this trouble had been discussed among the executives present it was apparent that practically all of them favored a return to 16 ga. zinc (0.064 in.) thickness. It was brought

out that the thinner gauges of zinc aggravate the stretching trouble.

### Stretching of Zinc

When called upon by Chairman Yeager to discuss this trouble, Clarence Seaman, Vice President of Imperial Type Metal Co., stated the trend at the present time was toward 16 ga. zinc. He said that in his company's own mill at the present time 85% of the orders were for 16 ga. zinc and in two or three months' time it is anticipated that 16 ga. zinc will take up to 95% of the mill's production. He stated the demand for 18 ga. zinc in the future will be greatly diminished and that the filling of orders for 18 ga. zinc will be delayed in the mill and will be almost prohibitive in price. With respect to the stretching of zinc in stereotype molding operation, Mr. Seaman said that so far as the manufacturer is concerned controls are used all the way through the process to provide a constant hardness in the metal. He believes the alleged variation in the hardness of zinc is caused by the human element in the photo-engraving department. Photo-engravers are not satisfied with their burning-in equipment and because of the variation in handling plates during the burning-in operation the resultant cuts vary in hardness.

Deo Padgett, Composing Room Superintendent of the Cleveland *Plain Dealer*, wanted to know why cuts coated with Redibak slide in the form. Charles Kirk, Stereotype Superintendent of the Detroit *News*, said he doesn't believe that Redibak causesd this trouble. Thin zinc curls under molding pressure. He believes stereotypers will secure better action as soon as they return to 16 ga. zinc.

Frank Otstot, Stereotype Superintendent of the Springfield (O.) *News-Sun*, wanted to know why the cutting knife which is used for cutting zinc plates apait, or in trimming them, caused a burr along the edge of the plate which interfered with the printing of cut and by-lines. Fred Meyer, Master Mechanic of the Detroit *News*, suggested that the knives should be ground with a bevel so slight as to be almost at right angles to the side of the blade.

### Faulty National Advertising Plates

Terry Mahan, Stereotype Superintendent, of the Akron (O.) *Beacon-Journal*, precipitated a lively discussion when he brought up the question of defective national advertising plates. Charles Kirk, Stereotype Superintendent of the Detroit *News*, arose to state that "magazines wouldn't dare print the stuff which was sent to newspapers in the form of plates." Considerable fault was found with plates by various executives. One of the principal objections was that in the case of electrotypes, a great many of them came into the newspaper plant without sufficient etching depth and that the plates in the open spaces were too shallow for stereotype reproduction. There seems to be a lack of general knowledge among advertisers and plate makers about the requirements of plates for newspaper reproduction. Mr. Kirk proposed that the Great Lakes Mechanical Conference go on record and send a recommendation to the ANPA for further action with respect to the unsuitability of plates for newspaper reproduction.

Leon A. Link, Production Manager of the Cleveland *Plain Dealer*, stated that in the case of financial advertising plates which consist mostly of type reproduction, it is difficult to secure good stereotype plates from them. He scored electrotypers for the kind of stuff which they have been sending out recently. Said he, in conclusion, "the poor quality of these plates represents the finest invitation to use plastic plates."

Stanley Morden, Representative of Federated Metals Division, said that the lack of complaints from newspapers to the plate makers is noticeable. He feels that if there are no complaints there will be no action toward remedying the poor plate situation.

### Winkler Suggests Educational Tactics

J. Homer Winkler, Assistant Supervisor, Graphic Arts Division, Battelle Memorial Institute, Columbus, Ohio, was invited to the microphone by Chairman Yeager. Mr. Winkler asserted that there are four principal causes for poor plates which the newspapers are getting at the present time. (1) Tremendous business volume with limited equipment and help. In particular, he cited human


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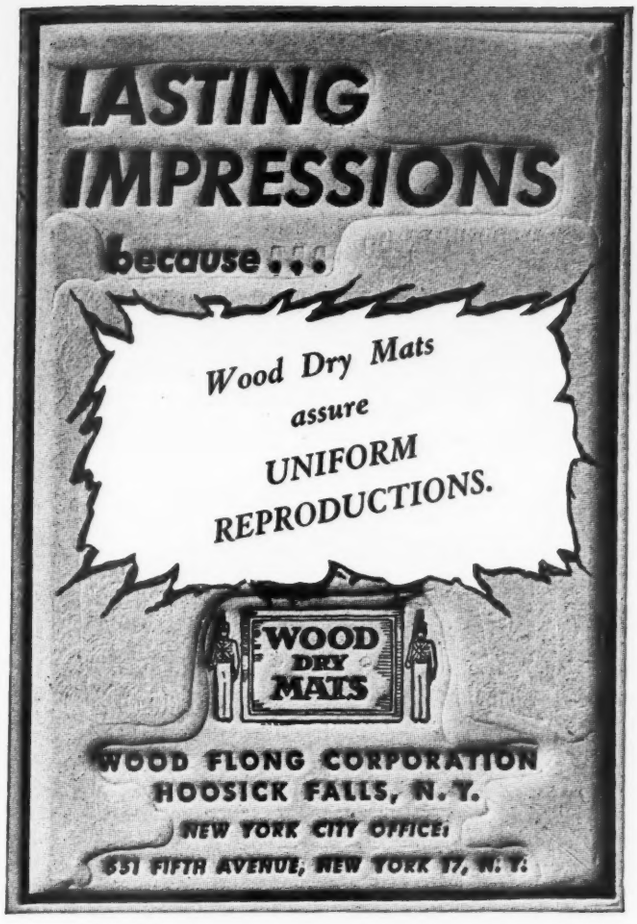


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fatigue as one of the principal causes. (2) Mat patterns and plates are sold on a price basis. Large plants specializing in this type of plate making solicit the business. (3) The time element in which the plates must be produced works against good quality. The demand of the advertiser for quick delivery in many instances does not permit putting in the time to make good plates. (4) Advertising agency production men are not sufficiently informed with respect to the requirements for newspaper plate reproduction.

Mr. Winkler suggested that inasmuch as the advertising agencies are concentrated in the larger cities, that each group in a city be contacted by the newspapers who, in turn, would arrange for a series of four or five lectures over a given period of time to inform the agency men what is needed in plates for newspaper reproduction. Mr. Winkler stated that newspapers would have to continually re-educate the user and producer of plates. The reason is that in the agencies particularly, there are personnel changes from time to time and it is necessary to provide refresher courses on newspaper printing plate requirements.

Richard Rarigh, Production Manager of McCann - Erickson Advertising Agency, feels that it is essential for information to be put in the hands of agency production men. Personally, he wants newspaper executives to feel free to tell what the newspapers need; that he feels the agency would like to have such information in advance. He said the agency is willing to spend the money necessary to furnish the best mats possible to the newspapers.

H. L. Higgins, Composing Room Superintendent of the Detroit *News*, asserted that 90% of the mats furnished for financial advertisement have to be reset between editions. He said he would just as soon have the agency send original copy for composition in his composing room.

### "People Who Live in Glass Houses Shouldn't Throw Stones"

All of the executives present got considerable bang out of Horace H. Parker when he arose to state "people who live in glass houses shouldn't throw stones". He asserted that the Richmond (Ind.) *Palladium-Item* didn't have as much trouble with national advertising mats as the mats which come out of the larger newspaper plants, for casting by the smaller plants. He asserted that in molding these mats old cracked corks must have been used. In other words, when a cork blanket is no longer fit for page mat molding, the center part is used for molding mats for advertising plates job work. The central part of the large page blanket which has been saved isn't fit for this purpose because it has been made considerably thinner through repeated use and doesn't have proper resiliency.

Leon A. Link, championed Mr. Parker's complaint. He said the same trouble occurs in the larger newspaper plants. An old mat will be hunted up from the file for molding cuts and when you get too far away from the original plate the whole stereotyping process defeats itself. Means should be taken to prevent cutting out a mat from the file rather than to get the original plate or the original mat itself.

Chairman Yeager suggested that instead of keeping a lengthy mat file over a period of several months that cut reproduction could be improved by keeping a file for not more than thirty days at the most.

At the invitation of Chairman Yeager, Walter E. Wines, Manager of the ANPA Mechanical Department, reviewed the record regarding plate specification troubles as published in three different reports, by the Mechanical Department and which were given wide national distribution. He stated that in the last analysis attempting to get better plates for newspaper use is an individual problem. He started the ANPA has no control over its own members nor of those of the AAAA. All that can be done by the ANPA is to make recommendations to its members. He doesn't see what can be done other than has already been done but he is willing to try it again.

E. S. Ebner, Press Room Superintendent of the Gary (Ind.) *Post Tribune*, said his firm has had some success in securing better plates by sending a form-letter to agencies and that his firm had secured fine cooperation from them.

After some discussion by M. George Martin, Production Manager of the Louisville (Ky.) *Courier-Journal* and *Times* respecting color printing in newspapers in the immediate and post-war period, it seemed to be the consensus of opinion that stereotype mat shrinkage

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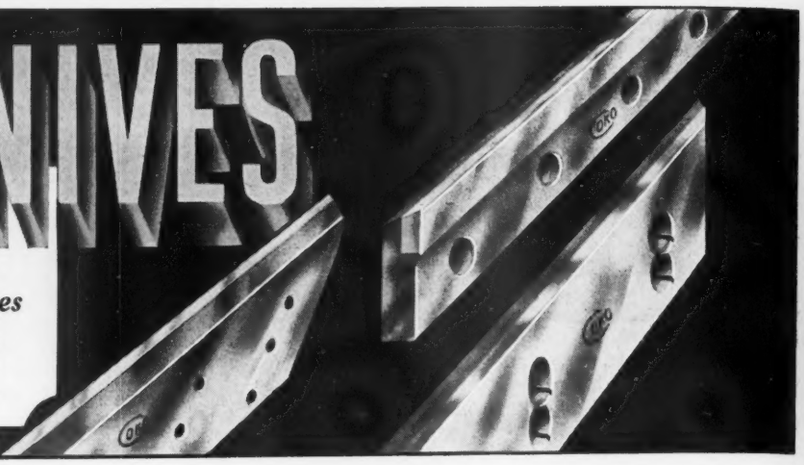


just doesn't make sense. On the other hand, Leon Link arose to state that there is no economy in setting type in shorter measure because of the hand spacing involved. In fact, said he, "short measures slow down composition." He said also that something ought to be done about doing away with double talk. "Either we want to print a better paper or we want a narrower measure column in order to get more revenue for the paper."

During the session Chairman Yeager distributed tear sheets prepared especially by the Indianapolis *Star* showing the effect of various weights of type on 20, 40 and 60% screen backgrounds for advertising compositions. One quotation taken from the tear sheet is as follows: "Reading black type against the screen's background is like reading black type against white paper while wearing smoked glasses. Both only serve to make it more difficult to read the type. The darker the screen or the darker the glasses, the more difficult it is to read."

## *Pressroom Session*

HORACE H. PARKER, Press-Stereo Superintendent of the Richmond (Ind.) *Palladium-Item*, who is also a director of the Great Lakes Conference, presided as chairman of the Pressroom meeting. Leon A. Link, Production Manager of the Cleveland *Plain Dealer*, asserted that paper does have something to do with any improvement in printing. He described experimental runs which had been made at the *Plain Dealer* with a strong 32 lb. paper which was printed from after a regular edition had been finished from the same plates and with the same ink, the only change being in the roll of paper. Sample copies of the papers were exhibited for inspection by the executives at the meeting. Joseph H. Lardin, Pressroom Superintendent of the Cleveland *Plain Dealer* and William Morrison, Pressroom Superintendent of the Cleveland *News*, both concurred in the idea that tension also has something to do with securing better first impression printing. E. Curtis White, Pressroom Superintendent of the Indianapolis *Star*, stated that first impression printing is a problem of offset. He said, however, that like a great many others, he had tried moving dots in halftones ahead and behind the key plate printing and he had tried many other things in attempts to eliminate first impression offset. He has already tried Auburn Taylor's water base ink and has also experimented with different kinds of tympans.

Lester Yeager, Production Manager of the Indianapolis *Star*, spoke of one occasion where a customer bought enough 40 lb. paper for a special section. He said in this instance, that the first impression printing of the 40 lb. paper looked just as bad as it does on 31-32 lb. paper. He asserted that this proves we are not yet provided with mechanical equipment for printing well on both sides of the sheet.

### Trend in Newspaper Color

Chairman Parker read a statement which contained information he had received as the result of contacting a number of advertising agencies with regard to the trend toward color printing in newspapers.

"With one exception" stated Mr. Parker "all of the agencies agreed that there is a definite trend toward color in daily newspapers. They disagreed, however, as to whether a newspaper would be seriously handicapped by not being able to print colors. Their replies indicated that color would be used by more advertisers if practically all newspapers were able to print it."

The following factors were considered to be holding back the use of color in newspapers. (1) Lack of standardization of mechanical requirements. (2) Excessive color rate premiums. These premiums vary from no additional charge to a 50% premium. (3) Poor color reproduction, and (4) The lack of color printing facilities, particularly in the East."

"Therefore," said Mr. Parker, "it would seem that newspapers must first have the facilities, they must standardize, they must do a good job and maintain low enough costs to suit the advertiser."

Leroy Church, Mechanical Superintendent of the Akron, (O.) *Beacon-Journal*, asserted he personally holds the opinion that color some day will be well-developed for newspaper printing. He stated, however, this opinion is not held


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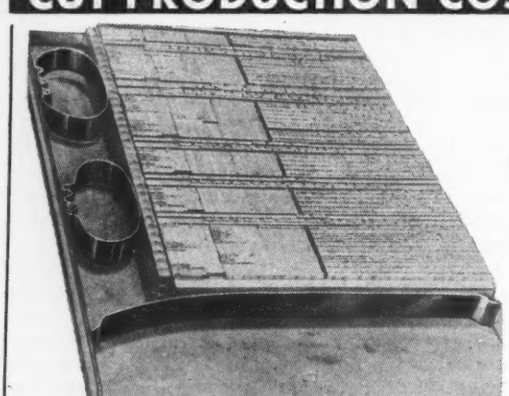

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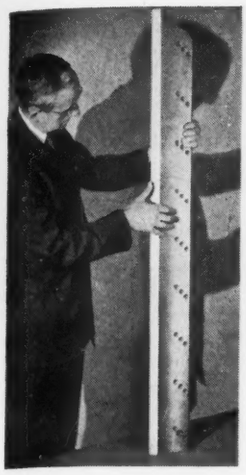

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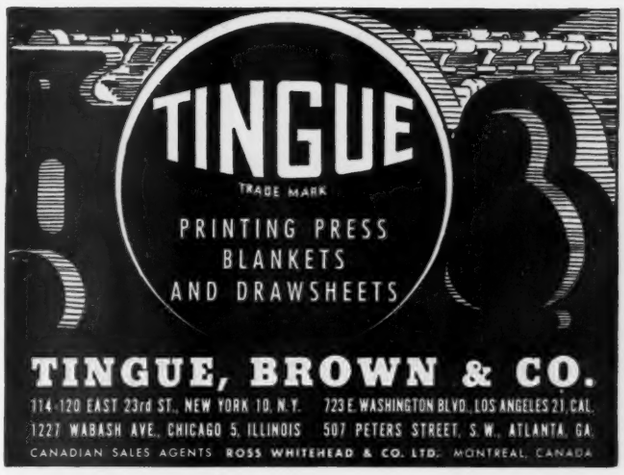


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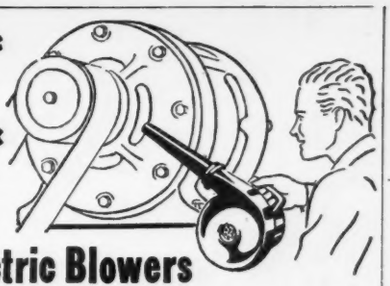

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by some publishers who say "we have other business to take the place of color printing."

Mr. Church believes, however, that newspapers will never be able to compete with magazines with respect to color printing.

Lester Yeager, Production Manager of the Indianapolis (Ind.) *Star*, arose to state that in a poll taken among a newspaper group, 88% of all the newspapers polled are figuring on expanding color printing facilities. He disagreed heartily with Mr. Church with respect to the future of color printing in newspapers.

E. Curtis White, Pressroom Superintendent, the Indianapolis *Star*, spoke enthusiastically about newspaper color printing. He stated we are going to see a color splurge; if the advertiser wants to spend the money to make a color splurge in newspapers, then the newspapers should accommodate him.

Mr. Yeager again spoke upon the subject and stated that with respect to waste in color printing, that people at the *Star* don't regard it as waste. If color printing will produce revenue to the newspaper, then such paper as is wasted cannot be considered as being wasted. He asserted that it is the belief of some Indianapolis advertisers that one page of color will do the work of four or five pages of black and white printing.

With respect to the question of distortion in color plate, someone wanted to know whether the plates were cooled slowly or by fast cooling. A. W. Barrow, Stereotype Superintendent, Indianapolis *Times*, states all of his color plates are cooled by air so as to avoid distortion in the cooling process.

Earl Lacure, Field Engineer of Duplex Printing Press Co., and C. S. Reilly, Sales Mgr., for Goss Printing Press Co., both explained the press color printing facilities which will be available from their companies.

In response to a question asked by Roy English of the Detroit *News*, Mr. Reilly stated presses are being built much heavier and improved mechanisms are being incorporated in order to hold register during color printing. Earl Weiskittel, Pressroom Superintendent of the Youngstown (O.) *Vindicator*, corroborated Mr. Reilly's remarks by saying "you don't have to worry about side swipe because the manufacturers are building sturdier presses." He stated that there is a minimum of 300 papers' waste, 100 of which went out that would not be acceptable to the advertiser. He stated newspapers must equip for the purpose if they expect to print color.

The subject of Unit Drive versus Group Drive for newspaper presses came up for discussion. It seemed to Mr. Yeager that in a group drive where one motor drives the press and anything happens to the motor that the whole press is down until the motor can be repaired. If a unit drive is used it becomes a more simple matter to repair the individual motor. In the case of the unit drive the motors are never over-powered such as happens with the single motor used in group drives. Earl Weiskittel, Pressroom Superintendent of the Youngstown (O.) *Vindicator*, thinks well of the unit drive and if anyone is giving consideration to press drives for new presses he should investigate both drives. He said if there were extra costs with respect to the unit drive that they could be justified because you can do things with a unit drive that you can't do with a group drive.

Paul Brannon, Pressroom Superintendent of the Cleveland *Press*, said he had brought up the subject and would like an answer as to the installation and maintenance costs between the two types of drives. No one seemed to be able to furnish the answer from the floor.

At the conclusion of the Pressroom Session, a resolution was adopted asking that the American Newspaper Publisher Association request the ANPA Mechanical Committee to give some consideration to the study of newsprint and printing ink as it relates to the publication of better newspapers, particularly in the light of color printing.

After election of officers (see box in another part of this article), adoption of the proposed constitution and by-laws, adoption of scale of dues for member papers and a unanimous acceptance of the invitation extended by Indianapolis newspaper publishers to the Great Lakes Conference for its 1946 meeting, the Conference adjourned.

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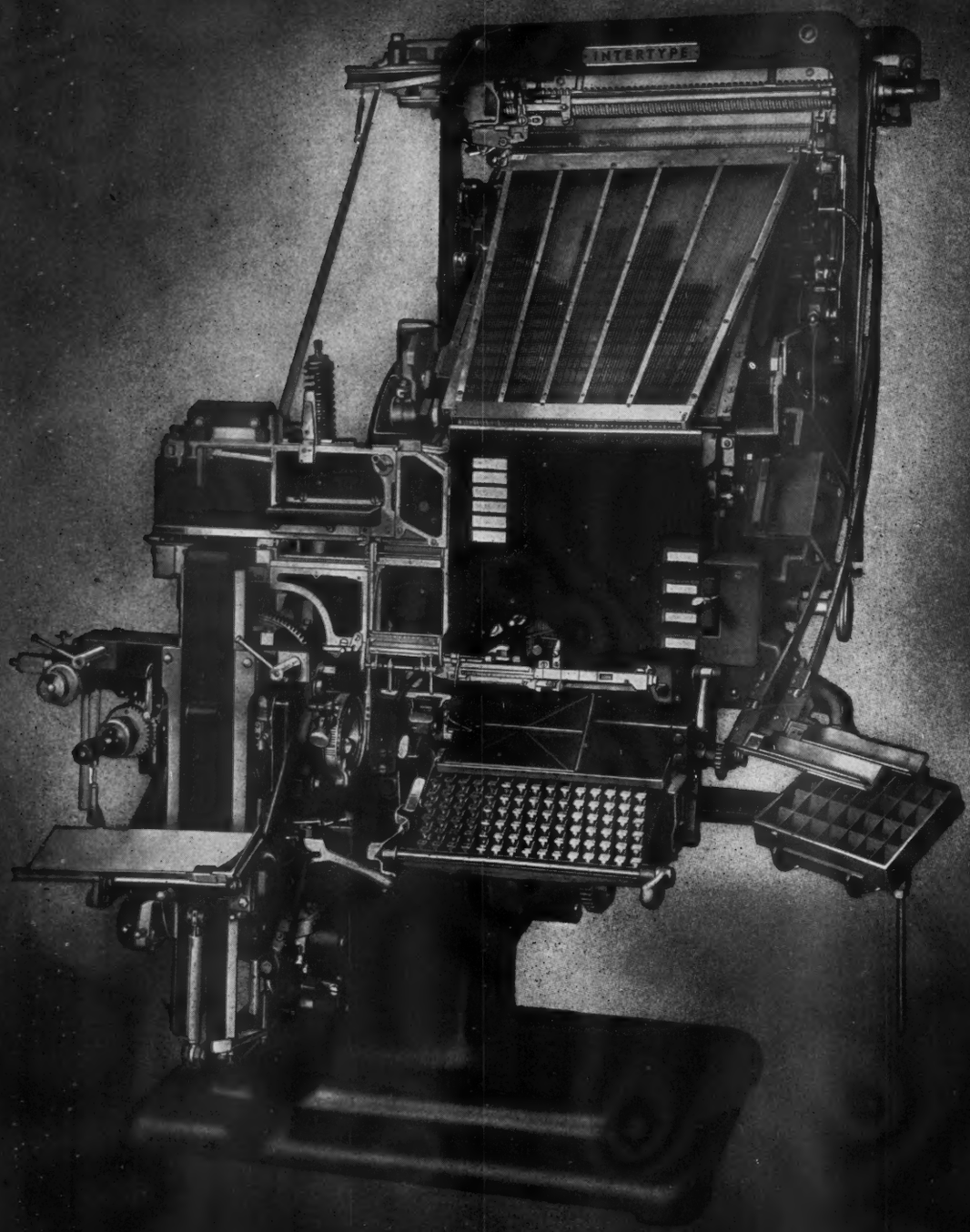
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